Basic Identification of Ammunition in Ukraine

V. 10.0
English Edition
25.06.2026

BOMB TECHS WITHOUT BORDERS
ВИБУХОТЕХНІКИ БЕЗ КОРДОНІВ

Introduction

Це англійська версія «Посібник з базової ідентифікації боєприпасів в Україні В. 10.0 25.06.2026». Вона була розроблена для того, щоб допомогти українським вибухотехнікам / саперам / розмінувальникам співпрацювати з їхніми міжнародними колегами. Уся інформація в посібниках подана з максимальною відповідністю, щоб полегшити розуміння один одного під час спільної роботи.

This is the English version of “Посібник з базової ідентифікації боєприпасів в Україні В. 10.0 25.06.2026”. It has been developed in order to assist Ukrainian EOD/deminers/sappers when working with their international counterparts. All information in the guides are aligned to match as closely as possible in order to facilitate translation while working together in the field.

This guide includes only those ammunition that were discovered on the territory of Ukraine. Missing data is marked by “**INFORMATION NEEDED**”.

For the most current Ukrainian and English versions of this guide go to: https://ukr.bulletpicker.com/id-guides.html. You can also scan the QR code here ------->

If you have any questions or suggestions, please contact us

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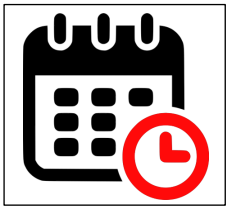
Click on any blue link to go to the appropriate section!

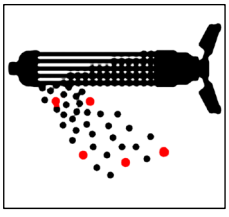
Warnings

In many munition entries there will be found warning symbols. These indicate that the munition has a specific hazard which makes it more dangerous in a particular way. Under normal, calm conditions Unexploded Ordnance (UXO) and Explosive Remnants of war (ERW) should never be needlessly approached! These warning symbols are provided to assist the user of this guide in making decisions when they are in complex or hostile environments where approaching UXO/ERW is necessary.

Self-destruct / Timer (seconds to hours): This munition has a timer or is designed to self-destruct after a short delay lasting between several seconds and up to 24 hours. Take into consideration that the duration of time may last much longer or shorter than designed due to damage, defects, or old age. These munitions can detonate at any time without warning, do not approach!



Self-destruct / Timer (days to months): This munition has a timer or is designed to self-destruct after a long delay lasting somewhere between one day and up to several months. Take into consideration that the duration of time may last much longer or shorter than designed due to damage, defects, or old age. These munitions can detonate at any time without warning, do not approach!



Cluster Munition or Submunition: This munition is a cluster munition or submunition. Assume that more items like it may be in the area. Use a clear and proven exit route from the area.

Acoustic Sensor: This munition possess an acoustic sensor that reacts to sound waves. Do not approach! If discovered close to your location, leave the area in the quietest way possible.

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Warnings

Seismic Sensor: This munition possess a seismic sensor that reacts to vibrations in the ground. Do not approach! If discovered close to your location, leave the area walking as softly as possible. When walking, make the pattern of your footsteps irregular.

Proximity Sensor: This munition possess an infrared, laser (including LiDAR), radar, or microwave sensor that reacts to a person or objects passing in front of it. These sensors are usually focused in one direction or area, but some are omnidirectional. Do not approach! If discovered close to your location, leave the area by a route which leads directly away from the munition and does not pass in front of the sensor.

Magnetic Sensor: This munition possess a magnetic sensor that reacts to the presence of metal and metallic objects. Do not approach! If discovered close to your location, leave the area by a route which leads directly away from the munition. Do not move any metallic objects that are already in the area.

Toxic Chemical: This munition contains a toxic chemical which is designed to incapacitate, injure, or kill. Do not approach! If discovered close to your location, don protective equipment and evacuate to an upwind location as quickly as possible.

Radioactive: This munition contains a radioactive substance such as depleted uranium. Do handle it without protective equipment, especially if the munition is damaged. If the munition has been in a fire, consider the ashes and debris to also be radioactive.

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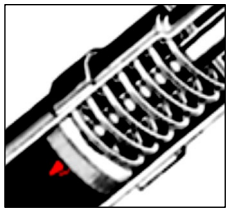
Warnings

Incendiary or Thermobaric: This munition is designed to produce an incendiary or thermobaric effect. It contains a filler such as magnesium, white phosphorus, thermite mixture, thermobaric explosive, etc. Consider this when handling or disposing of these munitions!



Cocked Striker: This munition contains a striker, firing pin or detonator that is held in a ready-to-fire position under spring tension. When the munition is armed or damaged, jarring or striking it may release the striker and cause the munition to function. Do not move by hand! Never attempt to transport by vehicle!

Extremely Sensitive to Movement: This munition, when armed, is extremely sensitive to being moved. It may be because of piezoelectric crystals in the fuze, an anti-handling feature, the design of the fuze, or other reasons. Familiarize yourself with the technical details of the munition before conducting any actions!

Boobytraps: All munitions found on the battlefield may be boobytrapped, but these are more likely than others to be rigged with anti-lift or anti-disturbance devices. Do not move by hand when first encountered! First, use a rope of sufficient length to remotely pull, shake, and tumble these munitions. After remotely moving, wait a period of time before approaching the munition.

Unknown Hazards: There is not enough information known about this munition to ascertain all of its hazards – treat it with the utmost caution!

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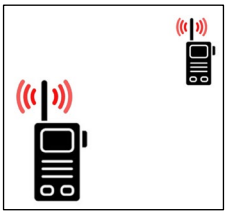
Warnings



Radio Command: This munition is known to contain fuzes or fuzing systems which allow for its remote arming, firing, or activation via radio signal. The munition may only be able to receive commands from a user (the transmitter), or, it may be capable of more complex two-way communications. External antennae may or may not be visible; the exact range and type of the radio device may also be unknown. Note that other fuzing elements can also be incorporated such as timers, impact mechanisms, etc.

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Aircraft Bombs

These are aerial bombs dropped from manned fixed-wing and rotary aircraft that are intended to impact with either the surface of the earth or targets on the surface of the earth. In general, they are larger in size than the bombs dropped from drones. They may be guided or unguided, and can have a wide variety of fillers/payloads.

If they contain multiple smaller munitions (submunitions) they are found in the cluster bombs section.

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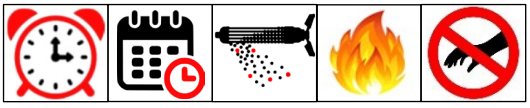
Aircraft Bombs



UMPK

Note: The UMPK is a guidance package attached to both aerial bombs and cluster bombs of different sizes. A variety of fuzes may be used with the bombs. When the remains of a UMPK are discovered, take all precautions until the type of munition and fuzes used with it are confirmed!
Country of origin: russia

UMPB D-30SN
(HE)

Diameter: 300mm
Length: ~3.03m
Wingspan: ~2m
Tailspan: ~600mm
Weight: **INFORMATION NEEDED**
Note: It is claimed that this munition can also be fired from 300mm MLRS.
Country of origin: russia

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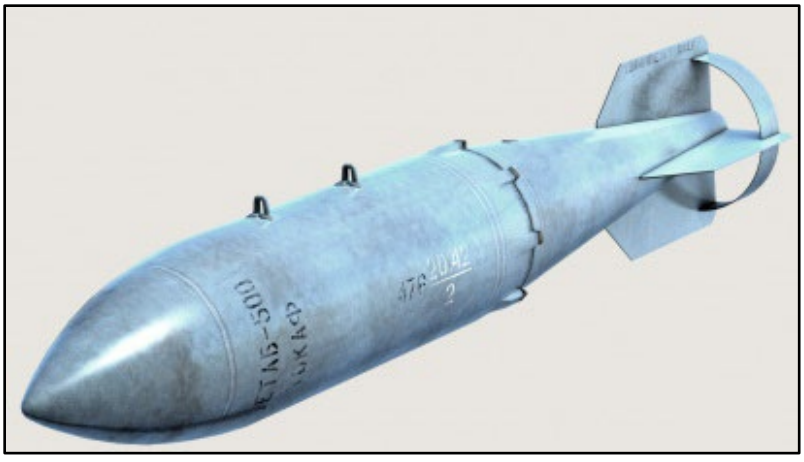
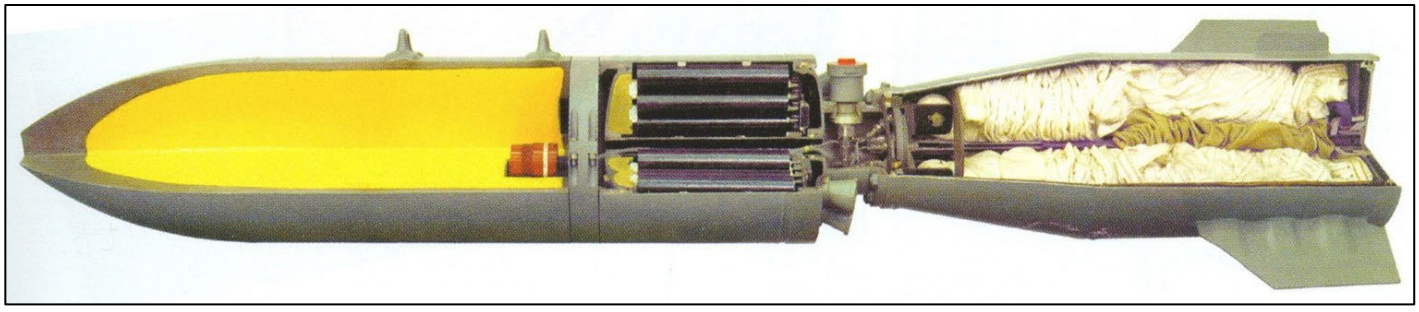
Aircraft Bombs



BETAB-500
(HE-concrete piercing)
Diameter of body: 350mm
Length: 2200mm
Weight: 478 kg
Country of origin: russia

BETAB-500ShP
(HE-concrete piercing)
Diameter of body: 325mm
Length with parachute assembly: 2510mm
Weight: 380 kg
Country of origin: russia



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Aircraft Bombs

OFAB-100-120
(HE-frag)
Diameter: 273mm
Length without fuze: 1065mm
Tailspan: 345mm
Weight: 123 kg
Country of origin: russia

OFAB-250ShN
(HE-frag)
Diameter: 325mm
Length: 1966mm
Tailspan: 410mm
Weight: 268 kg
Country of origin: russia

OFAB-250ShL
(HE-frag)
Diameter: 325mm
Length: 1991mm
Tailspan: 410mm
Weight: 266 kg
Country of origin: russia

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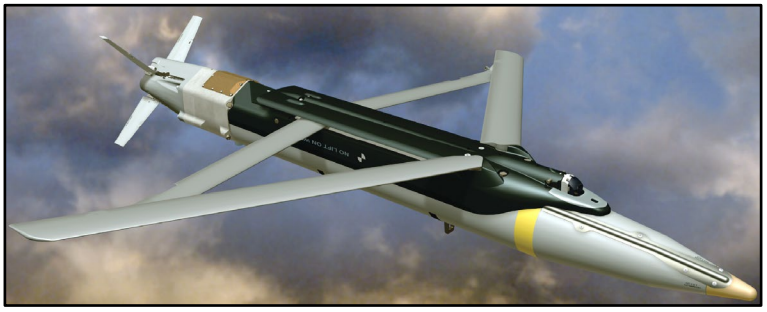
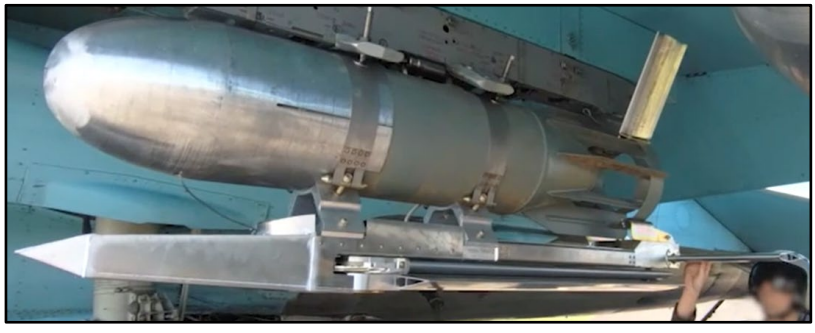
Aircraft Bombs



GBU-39/B SDB
(HE penetrator)
Diameter of body: 190mm
Length: 1.8m
Wingspan: 1.37m
Weight: ~120 kg
Country of origin: USA



OFAB-250-270
(HE-frag)
Diameter: 325mm
Length: 1456mm
Weight: 268 kg
Note: May be used with or without a UMPK.
Country of origin: russia

OFAB-500U
(HE-frag)
Diameter: 400mm
Length: 2300mm
Weight: 515 kg
Country of origin: russia

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FAB-250 M-54
(HE)
Diameter: 325mm
Length: 1490mm
Tailspan: 399mm
Weight: 230 kg
Country of origin: russia

FAB-500T
(HE)
Diameter: 400mm
Length without fuze: 2425mm
Weight: 477 kg
Note: May be used with or without a UMPK.
Country of origin: russia

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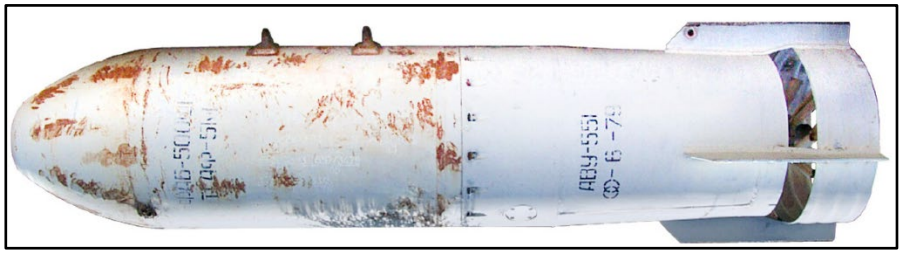
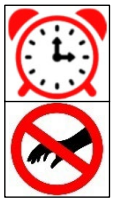
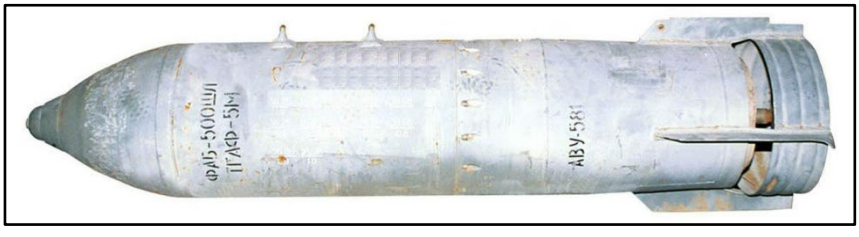
Aircraft Bombs

FAB-500 M-62
(HE)
Diameter: 400mm
Length: 2470mm
Weight: 497 kg
Note: May be used with or without a UMPK.
Country of origin: russia

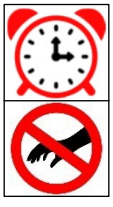


FAB-500ShN
(HE)
Diameter: 450mm
Length: 2190mm
Weight: 513 kg
Country of origin: russia





FAB-500ShL
(HE)
Diameter: 450mm
Length: 2220mm
Weight: 515 kg
Country of origin: russia



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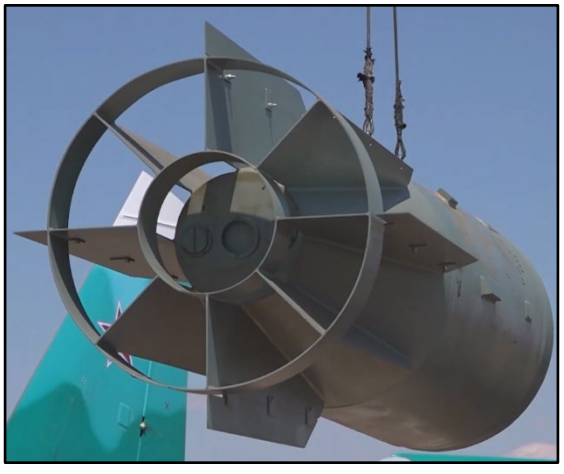
Aircraft Bombs

FAB-1500 M-54
(HE)
Diameter: 570mm
Length without fuze: 2310mm
Weight: 1550 kg
Note: May be used with or without a UMPK.
Country of origin: russia

FAB-3000 M-54
(HE)
Diameter: 820mm
Length without fuze: 3320mm
Tailspan: 1002mm
Weight: 3067 kg
Note: May be used with or without a UMPK. May contain two fuzes in the tail as well as one in the nose.
Country of origin: russia



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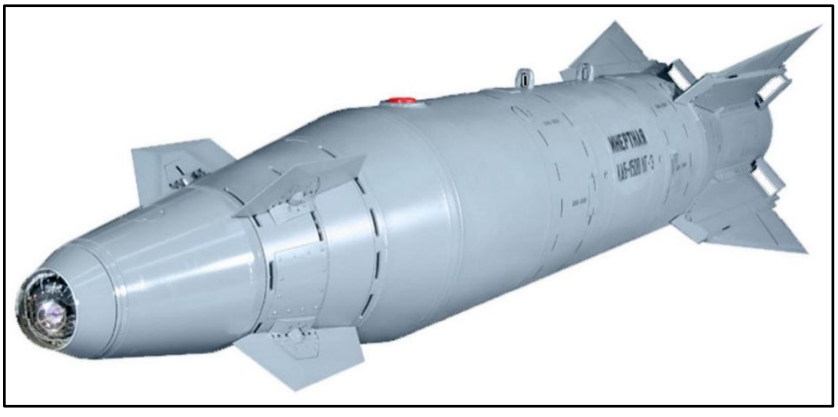
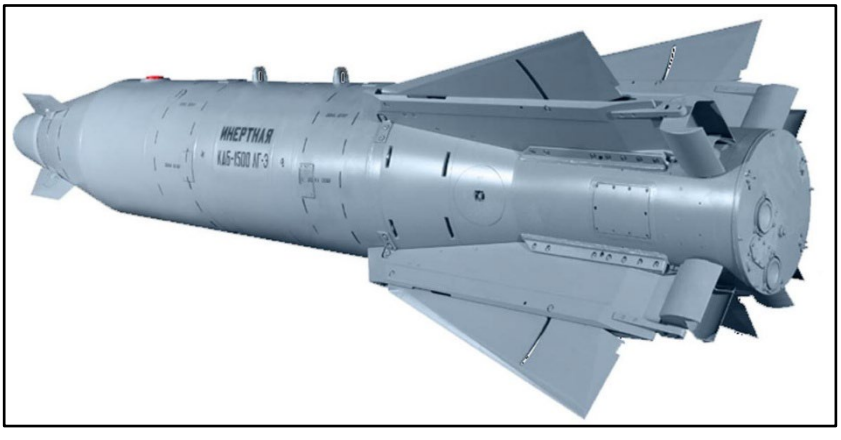
Aircraft Bombs

UPAB-1500B-E / K029BE
(HE-concrete piercing)
Diameter: 400mm
Length: 5.05m
Weight: 1525 kg
Country of origin: russia

KAB-500Kr
(HE-concrete piercing)
Diameter: 350mm
Length: 3.05m
Tailspan: 750mm
Weight: 520 kg
Country of origin: russia





KAB-1500LG-F and KAB-1500LG-Pr
(HE and HE-concrete piercing)
Diameter: 580mm
Length: 4.28m
Tailspan:
Folded: 850mm
Unfolded: 1300mm
Weight: 1525 kg
Country of origin: russia

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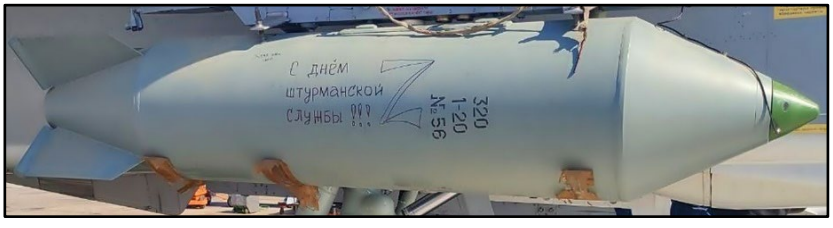
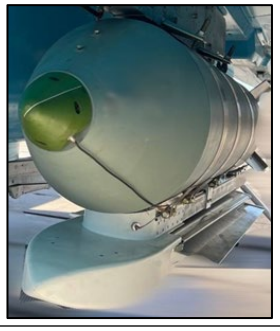
Aircraft Bombs

ODAB-500PM/PMV
(FAE)
Diameter: 500mm
Length: 2280/2380mm
Weight: 520/525 kg
Note: These contain a highly corrosive, toxic and flammable liquid.
Country of origin: russia

ODAB-500OF
(FAE, HE-frag)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Weight: **INFORMATION NEEDED**
Note: May be used with or without a UMPK.
Country of origin: russia



ODAB-1500
(FAE)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Weight: 1525 kg
Note: May be used with or without a UMPK.
Country of origin: russia



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Aircraft Bombs

OFZAB-500
(HE-frag-incendiary)

Diameter: 450mm
Length: 2385mm
Weight: 500 kg

Note: May be used with or without a UMPK.
Country of origin: russia

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Aerial Drone Bombs

These are aerial bombs dropped from unmanned fixed-wing and rotary-wing drones that are intended to impact with either the surface of the earth or targets on the surface of the earth. In general, they are smaller in size than the bombs dropped from aircraft. They may be guided or unguided, and can have a wide variety of fillers.

This section contains drone bombs which are manufactured by a nation, company, or organization in large quantities and have been standardized. Drone bombs which are improvised can be found in the Modified Ammunition section.

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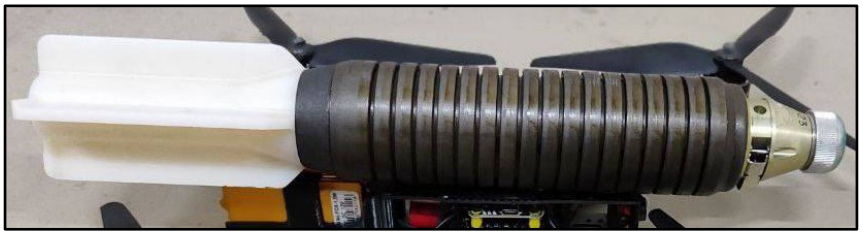
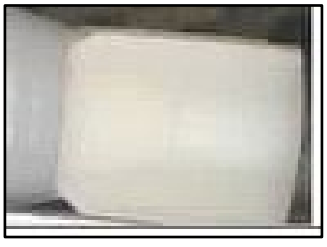
Aerial Drone Bombs

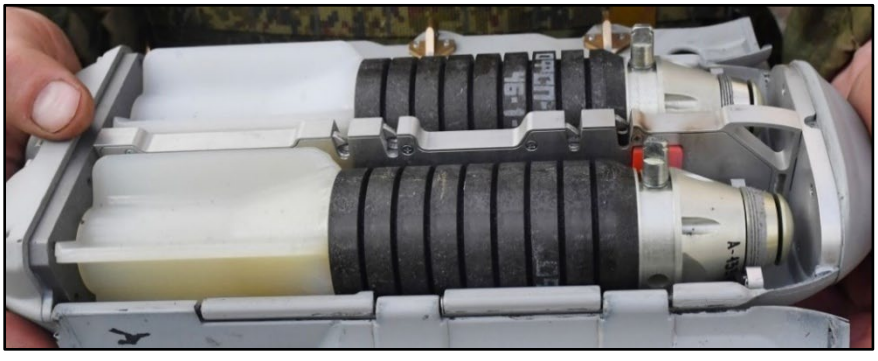


OFSP-2.5-A133
(HE-frag)
Diameter: 60mm
Length: 380mm
Weight: 2.5 kg
Country of origin: russia

FPV Drones



OFSP-1.7-A133 /
OFSP-1.7-A133 (variant)
(HE-frag)
Diameter: 55mm
Length: 305 / 340mm
Weight: 1.7 kg
Note: The variants differ by the length of their tailfins.
Country of origin: russia



OFSP-08-A133
(HE-frag)
Diameter: 48mm
Length: 230mm
Weight: 0.83 kg
Country of origin: russia

UAV Orlan-10

OFSP-05-A133 / B133
(HE-frag)
Diameter: 48mm
Length: 190mm
Weight: 0.5 kg
Country of origin: russia

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Aerial Drone Bombs

KZSP-0.5-A688
(HEAT)
Diameter: 48mm
Length: 214mm
Weight: 0.5 kg
Country of origin: russia

UDT-0.5 AT.SDB
(HE-frag)
Diameter: 44mm
Length: 220mm
Weight: **INFORMATION NEEDED**
Country of origin: Ukraine

AZB-5
(incendiary)
Diameter of body: 110mm
Length without fuze: 528mm
Wingspan: 153mm
Weight: ~5 kg
Country of origin: russia, Ukraine

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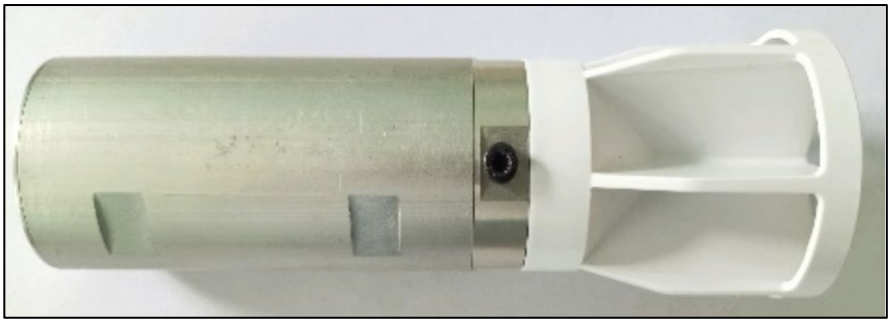
Aerial Drone Bombs



BNPP-40
(HE-frag)
Diameter: 40mm
Length: 95mm
Weight: 380 g
Note: Uses the PMD-K fuze.
Country of origin: Ukraine

BNPP-40M
(HE-frag)
Diameter: 40mm
Length: 95mm
Weight: 380 g
Note: Uses the PMG-K fuze.
Country of origin: Ukraine

120mm TB
(thermobaric)
Diameter: 120mm
Length with UT M18 fuze: 371mm
Weight: 13.1 kg
Country of origin: Serbia

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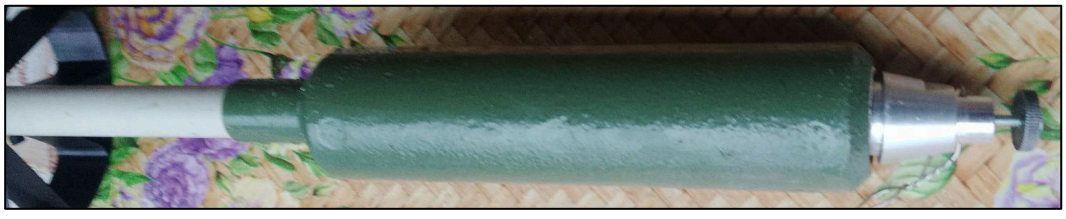
Aerial Drone Bombs

MOA-120
(HE-frag)
Dimensions: varies
Note: Normally used with a PB-1U, modified MRV-U, or similar impact fuze.
Country of origin: Ukraine



MOA-400
(HE-frag)
Dimensions: varies
Note: Normally used with a PB-1U, modified MRV-U, or similar impact fuze.
Country of origin: Ukraine

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Aerial Drone Bombs

MOA-900
(HE-frag)
Dimensions: varies
Note: Normally used with a PB-1U, modified MRV-U, or similar impact fuze.
Country of origin: Ukraine

FAB-8.5 and FAB-8.5-A
(HE)
Diameter: 155mm
Length of body: 640mm
Note: Normally used with the PNI-1 impact fuze.
Country of origin: Ukraine

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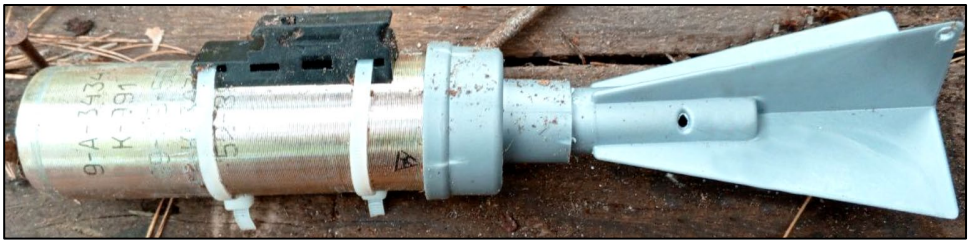
Aerial Drone Bombs

HFB0500C
"Carrot"
(HEAT)
Diameter of body: 42mm
Length: 270mm
Note: Uses an impact-inertia fuze in the tail. The warhead is a modified PTAB-1M submunition.
Country of origin: Ukraine



HFB0600F
"Walnut"
(fragmentation)
Diameter of body: 78mm
Length: 202mm

Note: Uses an impact-inertia fuze in the tail. Contains a Shoab-0.5/0.5M inside.
Country of origin: Ukraine

HFB1200F "Beet"
(HE-frag)
Diameter of body: 90mm
Length: 180mm

Note: Uses an impact-inertia fuze in the tail. The warhead is half of a modified AO-2.5RT/RTM submunition.
Country of origin: Ukraine

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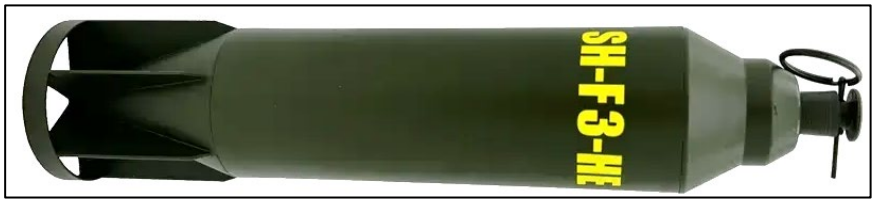
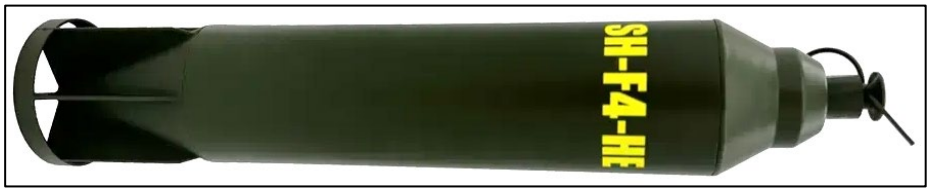
Aerial Drone Bombs

SH-F1-HE
(HE-frag)
Diameter: 65mm
Length: 210mm
Weight: 0.6 kg
Country of origin: Ukraine

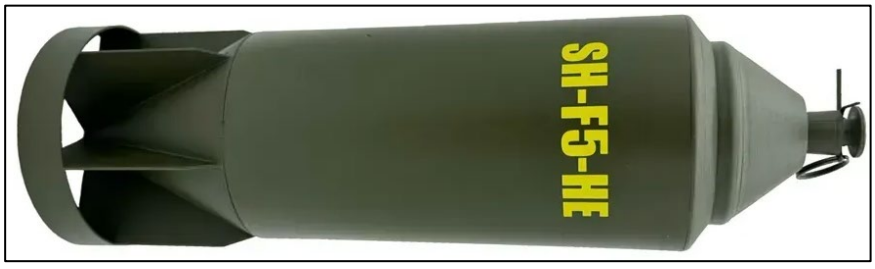
SH-F2-HE
(HE-frag)
Diameter: 65mm
Length: 250mm
Weight: 1.15 kg
Country of origin: Ukraine



SH-F3-HE
(HE-frag)
Diameter: 65mm
Length: 290mm
Weight: 1.45 kg
Country of origin: Ukraine



SH-F4-HE
(HE-frag)
Diameter: 65mm
Length: 330mm
Weight: 1.8 kg
Country of origin:
Ukraine



SH-F5-HE
(HE-frag)
Diameter: 90mm
Length: 280mm
Weight: 3 kg
Country of origin: Ukraine

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Aerial Drone Bombs

UAB-1.5 and UAB-1.5-A
(HE-frag)

Diameter: 82mm
Length: 330mm
Weight: 1.5 kg
Note: Normally used with the PNU-1 impact fuze.
Country of origin: Ukraine

UAB-2.0 and UAB-2.0-A
(HE-frag)

Diameter: 82mm
Length: 365mm
Weight: 2.0 kg
Note: Normally used with the PNU-1 impact fuze.
Country of origin: Ukraine

UAB-2.5 and UAB-2.5-A
(HE-frag)

Diameter: 82mm
Length: 410 mm
Weight: 2.5 kg
Note: Normally used with the PNU-1 impact fuze.
Country of origin: Ukraine

UAB-4.0 and UAB-4.0-A
(HE-frag)

Diameter: 92mm
Length: 405mm
Weight: 4 kg
Note: Normally used with the PNU-1 impact fuze.
Country of origin: Ukraine

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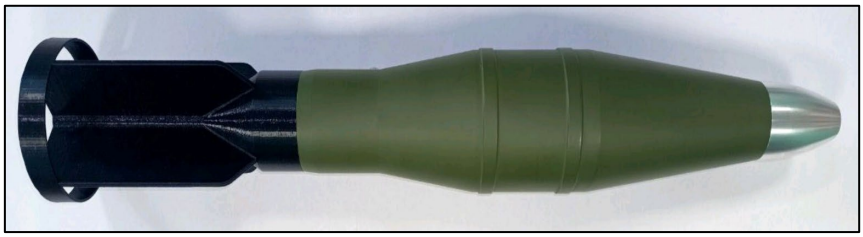
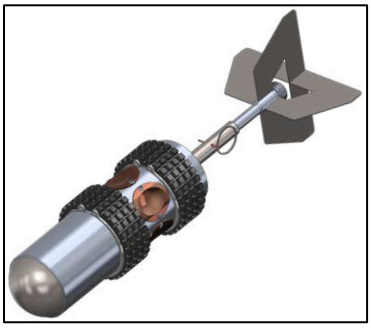
Aerial Drone Bombs

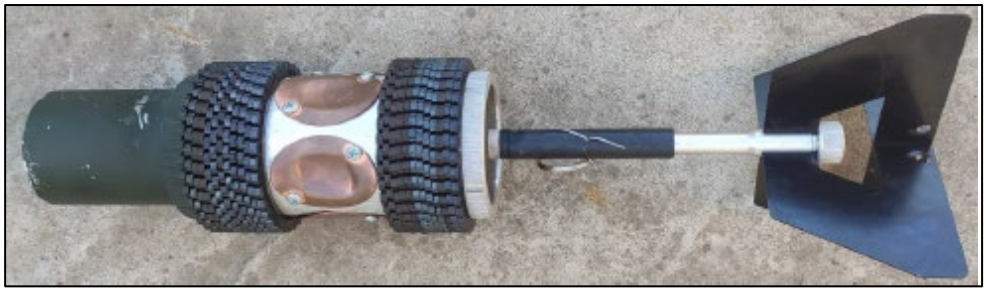


OG-B1
(HE-frag)
Diameter: 73mm
Length: 482mm
Weight: 3.1 kg
Note: Uses the PB-1U fuze.
Country of origin: Ukraine

BPBPLA-KOM-1500
(HEAT, fragmentation)
Diameter of body: 75mm
Length: 400mm
Note: Uses an impact-inertia fuze in the tail.
Country of origin: Ukraine



BPBPLA-BTs-2500
(HEAT, fragmentation)
Diameter of body: 92mm
Total length: 415mm
Length of body: 225mm
Note: Uses an impact-inertia fuze in the tail.
Country of origin: Ukraine



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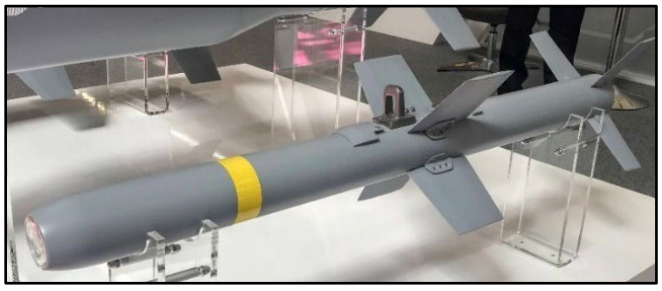
Aerial Drone Bombs

Qaem-5
(HE-antistructure)
Diameter: 152mm
Length: 1080mm
Weight: 20 kg
Country of origin: Iran

[UAV Mohajer-6 / ER-860]

MAM-L
(HEAT)
Diameter of body: 160mm
Length: 1m
Wingspan: **INFORMATION NEEDED**
Country of origin: Turkey

[Bayraktar TB2]



MAM-C
(HE-frag)
Diameter of body: 70mm
Length: 970mm
Wingspan: **INFORMATION NEEDED**
Country of origin: Turkey

[Bayraktar TB2]

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Aerial Drone Bombs

KAB-20
(HE-frag)
Diameter of body: 130mm
Length: 900mm
Wingspan: 350mm
Weight: 21 kg
Country of origin: russia

UAB-20 OFL
(HE-Frag)
Diameter of body: 135mm
Length: **INFORMATION NEEDED**
Wingspan: **INFORMATION NEEDED**
Weight: **INFORMATION NEEDED**
Country of origin: russia

Forpost UAV

Orion-E UAV

UB-75HE
Diameter: 75mm
Length: 500mm
Weight: 2 kg
Country of origin: Ukraine

Punisher

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Aerial Drone Bombs

ZB-500
(incendiary)
Length: 140mm
Width: 71mm
Thickness: 71mm
Country of origin: Ukraine

ZB-1500
(incendiary)
Length: 188mm
Width: 91mm
Thickness: 91mm
Country of origin: Ukraine

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Cluster Bombs

Cluster bombs are aviation bombs that contain and release smaller munitions (submunitions).

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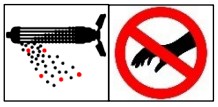
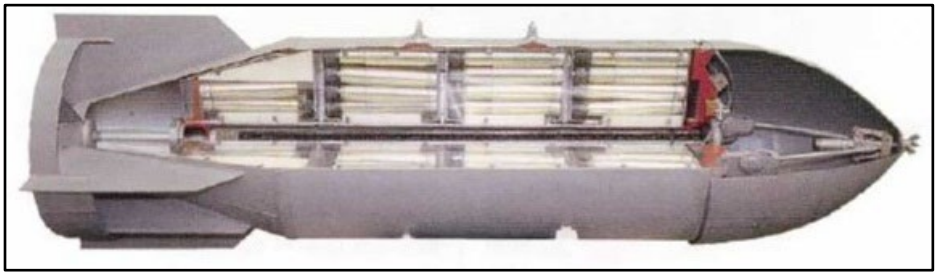
Cluster Bombs

RBK-250 PTAB-2.5M
(HEAT submunitions)

Diameter: 325mm
Length: 2120mm
Wingpan: 410mm
Weight: 248 kg
Country of origin: USSR

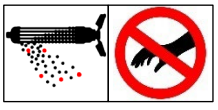


PTAB-2.5M



RBK-500 PTAB-1M
(HEAT submunitions)

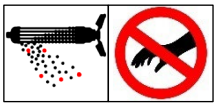
Diameter: 450mm
Length: 1955mm
Weight: 427 kg
Country of origin: USSR



PTAB-1M

OFAB-500ShR
(HE-frag submunitions)

Diameter: 450mm
Length: 2500mm
Weight: 509 kg
Country of origin: russia



Submunitions from OFAB-500ShR

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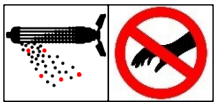
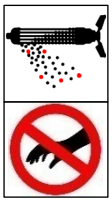
Cluster Bombs

RBK-500 ShOAB-0.5
(fragmentation submunitions)
Diameter: 450mm
Length: 1950mm
Wingspan: 570mm
Weight: 334 kg
Note: May be used with or without a UMPK.
Country of origin: russia



ShOAB-0.5

RBK-500 AO-2.5RT and RBK-500 AO-2.5RTM
(HE-frag submunitions)
Diameter: 450mm
Length: 2500mm
Wingspan: **INFORMATION NEEDED**
Weight: 504 kg
Country of origin: russia



AO-2.5PT / AO-2.5PTM

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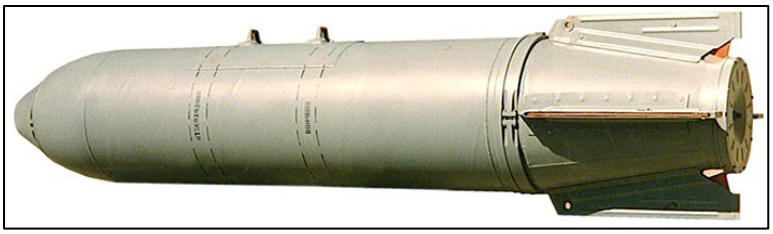
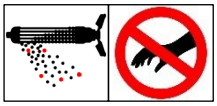
Cluster Bombs



OAB-2.5RT

RBK-500U OAB-2.5RT
(fragmentation submunitions)
Diameter: 450mm
Length: 2495mm
Wingspan: **INFORMATION NEEDED**
Weight: 500 kg
Country of origin: russia



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Immediate Action Submunitions

Submunitions are smaller munitions which are designed to be released, deployed, or ejected from a carrier munition in order to cover a larger target area.

Immediate action submunitions are submunitions which have been designed to produce an immediate effect upon a target or target area when they are deployed from their carrier munition. They may or may not have a short delay self-destruct feature (seconds to minutes). Their carrier munitions include cluster bombs, projectiles, mortars, rockets, guided missiles, and dispensers.

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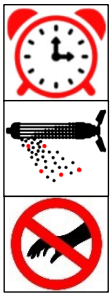
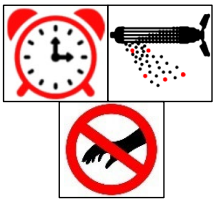
Immediate Action Submunitions

9N24
(HE-frag)
Diameter: 88mm
Length: 373mm
Country of origin: USSR



9M79 Series

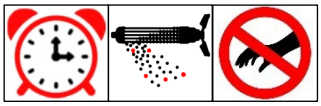
9N210/9N235
(HE-frag)
Diameter: 65mm
Length: 263mm
Country of origin: russia



220mm MLRS

PTAB-1M
(HEAT)
Diameter: 42mm
Length: 251mm
Tailspan: ~72mm
Country of origin: USSR

RBK-500 PTAB-1M



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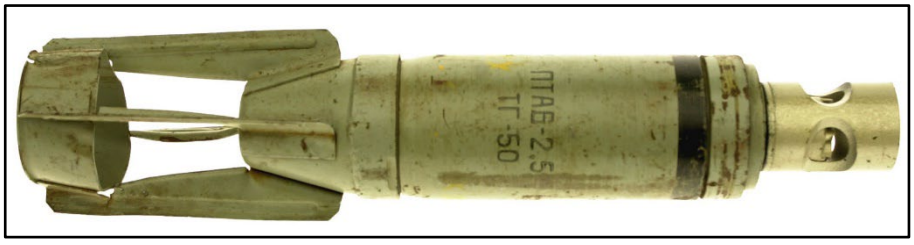
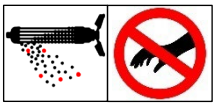
Immediate Action Submunitions

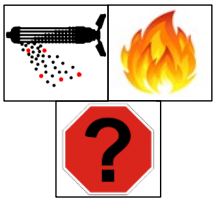


PTAB-2.5M
(HEAT)
Diameter: 68mm
Finspan: 87-90mm
Length with fuze: 395mm
Length without fuze: 332-339mm
Country of origin: USSR

RBK-250
PTAB-2.5M



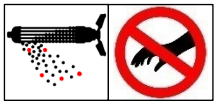
9N247M
(HE-frag incendiary)
Length: **INFORMATION NEEDED**
Diameter: **INFORMATION NEEDED**
Country of origin: USSR



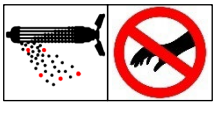
220mm MLRS

9N277
(HE-frag)
Length: ~300mm
Diameter: ~190mm
Country of origin: USSR

220mm MLRS



9N288
(HE-frag)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Country of origin: russia



220mm MLRS

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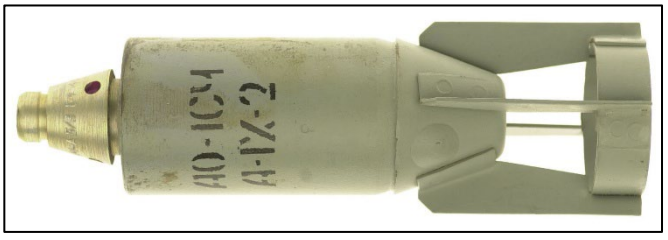
Immediate Action Submunitions

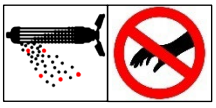
Submunitions from OFAB-500ShR
(HE-frag)

Diameter: ~350mm
Length of Small Submunition: ~440mm
Length of Large Submunition: ~540mm
Country of origin: russia

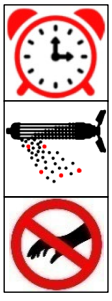
[OFAB-500ShR]



AO-1SCh
(HE-frag)

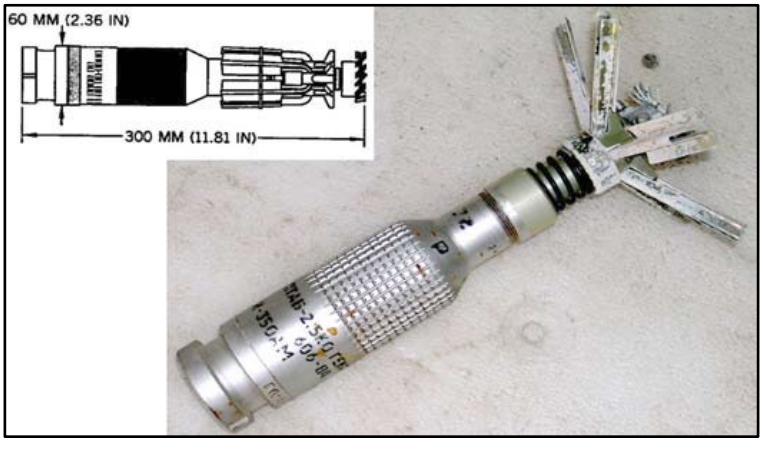


Diameter: 48-50mm
Length without fuze: 153-158mm
Length with fuze: 182-188mm
Tailspan: 58.5-60
Note: This submunition is often modified to be dropped from a drone.
Country of origin: russia



PTAB-2.5KO
(HEAT, fragmentation)

Length: ~300mm
Diameter: 60mm
Country of origin: russia



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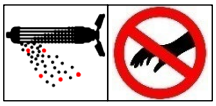
Immediate Action Submunitions

O-10 / 3-O-10
(HE-frag)
Diameter: 65mm
Length: 300mm
Country of origin: russia

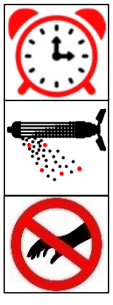
[240mm 3VO11/3O8]



O-16 / 3-O-16
(HE-frag)
Diameter: 52mm
Length: 193mm
Country of origin: russia

[152mm O-13]

[203mm O-14]



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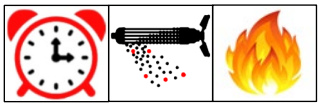
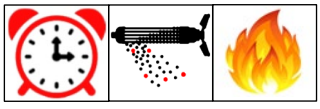
Immediate Action Submunitions

ZAB-0.15
(incendiary)



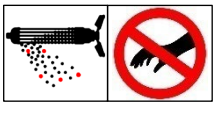
Diameter: 23mm
Length: 135mm
Note: This submunition is often modified to be dropped from a drone.
Country of origin: russia

ZAB-2.5
(incendiary)



Diameter: 68mm
Length: 244-249mm
Note: There are 3 different variants. The newer versions are grey, older versions are red-brown.
Country of origin: russia

9N730
(HE-frag)
Length: **INFORMATION NEEDED**
Diameter: ~116mm
Country of origin: russia



9M723 Series

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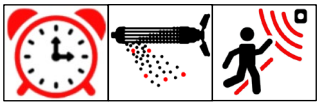
Immediate Action Submunitions

SPBE Series
(EFP)
Diameter of warhead: 185mm
Length: 384mm
Country of origin: russia

SMArt
(EFP)
Diameter:140-150mm
Height: 180-200mm
Country of origin: Germany

155mm DM702



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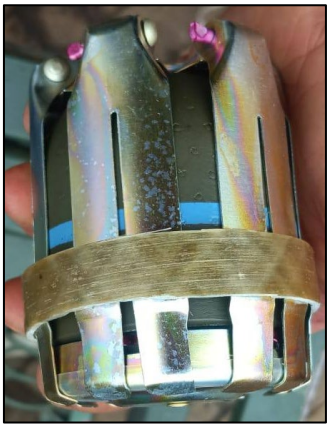
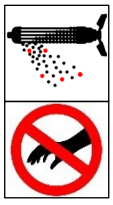
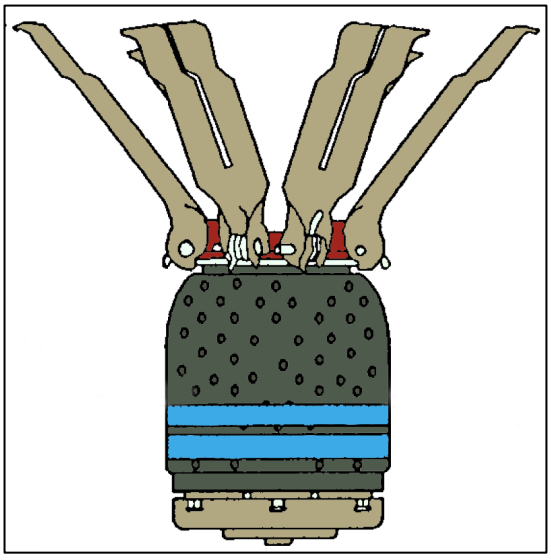
Immediate Action Submunitions

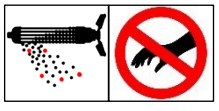
LBOK-1
(HE-frag)
Diameter of body: 67mm
Length with vanes folded: 97mm
Length with vanes unfolded: 170mm

Note: This submunition is often modified to be dropped from a drone.
Country of origin: Poland



ShOAB-0.5
(fragmentation)
Diameter of body: 64mm
Note: Uses the AV-281 fuze.
Country of origin: russia



[RBK-500 ShOAB-0.5]

M74
(HE-frag incendiary)
Diameter of body: 59mm
Country of origin: USA

[MGM-140A ATACMS]

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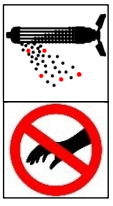
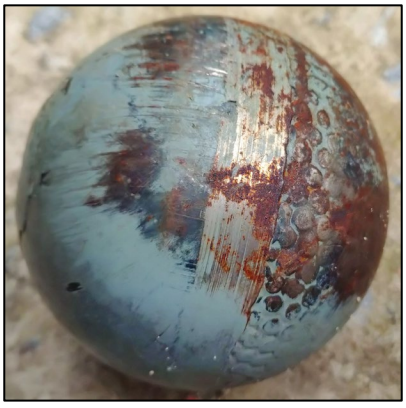
Immediate Action Submunitions

Submunition from Kh-59MK2 and Kh-69
(HE-frag)

Diameter: ~95mm
Note: Uses the 136V3 fuze.
Country of origin: russia



Kh-59MK2 | Kh-69



Submunition from Kh-101
(HE-frag incendiary)

Diameter: ~120mm
Length: ~115mm
Note: Uses the 136V3 fuze.
Country of origin: russia

Kh-101

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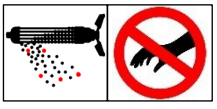
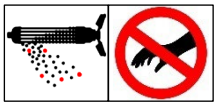
Immediate Action Submunitions

RBK-500 AO-2.5RT and RBK-500 AO-2.5RTM

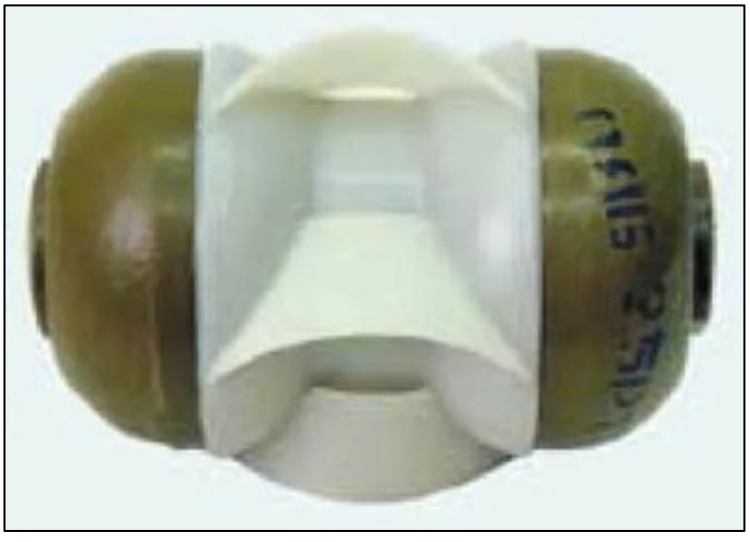


AO-2.5RT and AO-2.5RTM
(HE-frag)
Diameter of body: 90mm
Length: 150mm
Country of origin: russia

OAB-2.5RT
(fragmentation)
Diameter: 115mm
Diameter of body: 90mm
Length: 170mm
Country of origin: russia



RBK-500U OAB-2.5RT



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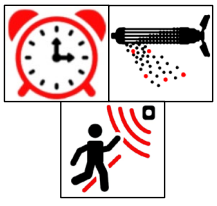
Immediate Action Submunitions



BONUS
(EFP)

Diameter: 138mm
Length of body: 141mm
Country of origin: France, Sweden

155mm BONUS

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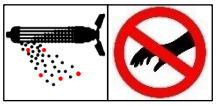
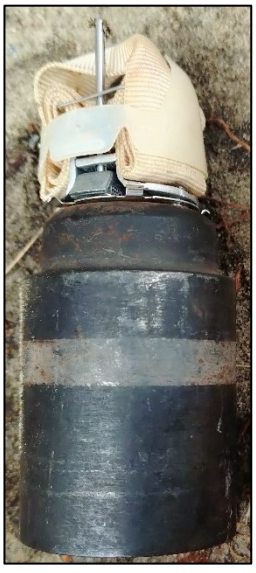
Immediate Action Submunitions

M42 and M46
(HEAT, fragmentation)
Diameter: 38mm
Height: 81mm
Country of origin: USA

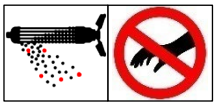


[155mm M483A1]

[155mm M864]

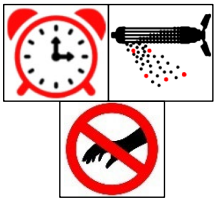


M77 and M101
(HEAT, fragmentation)
Diameter: 38mm
Height: 81mm
Country of origin: USA



[227mm M30]

3B30
(HEAT, fragmentation)
Diameter: 43mm
Length: 128mm
Country of origin: russia



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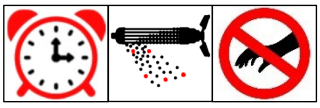
Immediate Action Submunitions

North Korean submunition
(from 107mm rockets)
(HEAT)

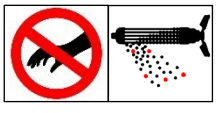
Diameter: 36mm
Length: 84mm
Country of origin: North Korea

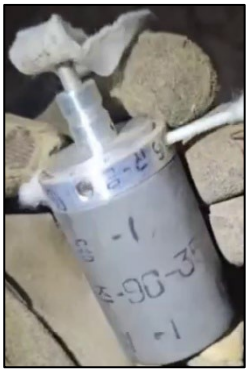


[107mm MLRS-107-E (107산포)]

North Korean submunition
(from 122mm rockets)
(HEAT)

Diameter: ~38mm
Length of body: 60mm
Length with fuze: 89mm
Country of origin: North Korea





[North Korean 122mm cluster rockets (model unknown)]

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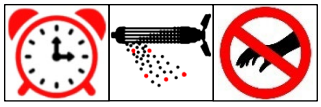
Immediate Action Submunitions

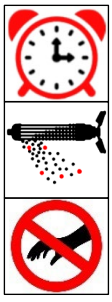
GKO
(HEAT)
Diameter: 38mm
Length of body: 118mm
Length without fuze: 91mm
Country of origin: Poland

122 mm M-21-FK



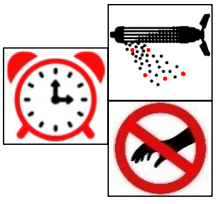
M87
(HEAT)
Diameter: 42mm
Length with fuze: 82mm
Country of origin: Israel

120mm M971



O-25 / 3-O-25
(HEAT)
Length: **INFORMATION NEEDED**
Length without fuze: 72mm
Diameter: 44mm
Country of origin: russia

152mm 3-O-25 Submunition Projectile



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Scatterable Mines

Submunitions are smaller munitions which are designed to be released, deployed, or ejected from a carrier munition in order to cover a larger target area.

Scatterable mines are submunitions which have been designed to act as landmines after they are deployed from their carrier munition. They may or may not have a long delay self-destruct feature (hours to weeks). Their carrier munitions include cluster bombs, projectiles, mortars, rockets, guided missiles, aerial drones, dispensers, and the canisters from remote mining systems.

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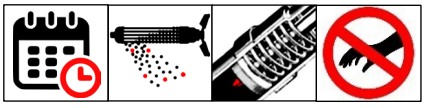
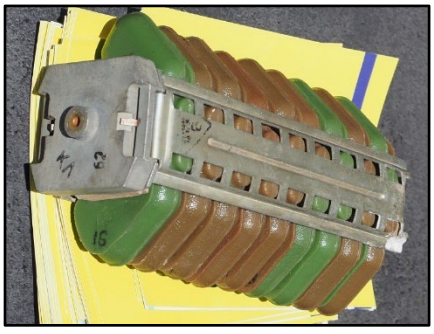
Scatterable Mines

PFM-1 and PFM-1S "Petal"
(HE)

Length: 119mm
Width: 64mm
Thickness: 20mm
Country of origin: USSR

220mm MLRS



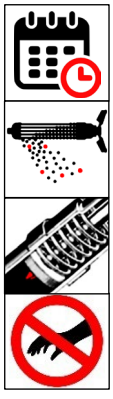


KSF-1F Series

Length: 480mm
Diameter 140mm
Note: Different models of this canister contain different amounts of PFM-1 and/or PFM-1S submunitions.
Country of origin: USSR

PTM-1
(HE)

Length: 340mm
Width: 70mm
Height: 70mm
Country of origin: russia



220mm MLRS

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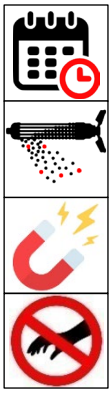
Scatterable Mines

PTM-3
(HEAT)
Length: 330mm
Width: 84mm
Height: 84mm
Country of origin: USSR



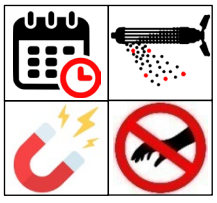
KPTM-3
Length: 480mm
Diameter: 140mm
Note: A KPTM-3 canister holds one PTM-3.
Country of origin: USSR

[Shahed-136 / Geran-2 Series]

[KRM-T / PTM-4R]

[140mm KIB]

PTM-4 and PTM-4M
(HEAT)
Length: 350mm
Width: 110mm
Height: 55mm
Country of origin: russia



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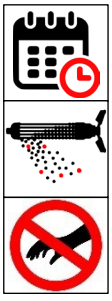
Scatterable Mines

POM-2
(fragmentation)

Diameter: 63мм
Height: 180мм
Note: Each POM-2 deploys 4 tripwires.
Country of origin: USSR/russia



[Shahed-136 / Geran-2 Series]

KPOM-2

Diameter: 140mm
Height: 480mm
Note: 4 mines are inside a KPOM-2 cassette.
Country of origin: USSR/russia

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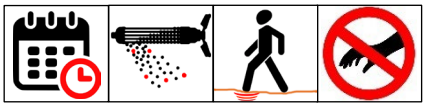
Scatterable Mines

POM-3 "Medallion"
(bounding, fragmentation)
Length: 190mm
Diameter: 63mm
Country of origin: russia



[140mm KIB]

KPOM-3
Length: 500mm
Diameter: 150mm
Note: 4 mines are inside a KPOM-3 cassette.
Country of origin: russia

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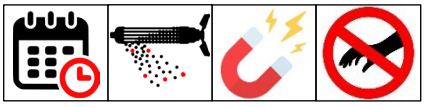
Scatterable Mines

RAAMS / M70 / M73
(EFPs)
Diameter: 127mm
Height: 61mm

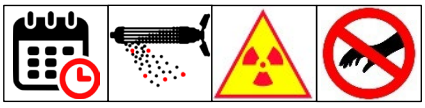
Note: These scatterable mines contain two EFPs - one pointed upward, and one pointed downward.
Country of origin: USA



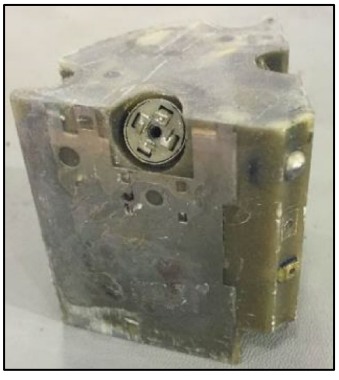
155mm M718/M741

ADAM
(bounding, fragmentation)
Height: 67mm
Width: 59mm
Length: 71mm

Note: Deploys 7 tripwires. ***Each ADAM contains a small amount of depleted uranium.***
Country of origin: USA



155mm M692/M731



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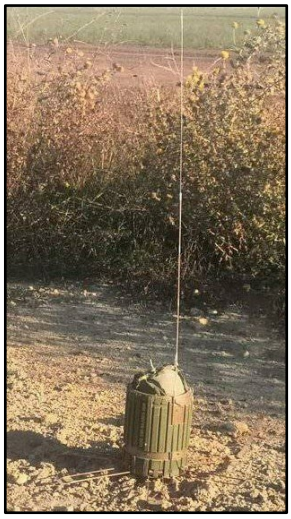
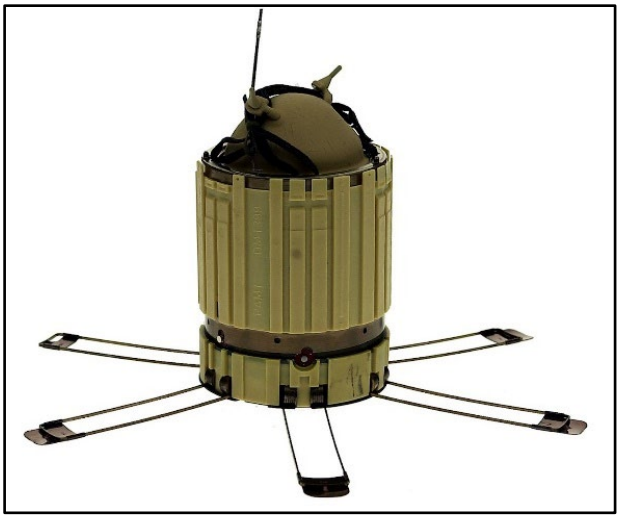
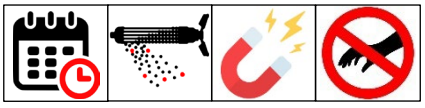
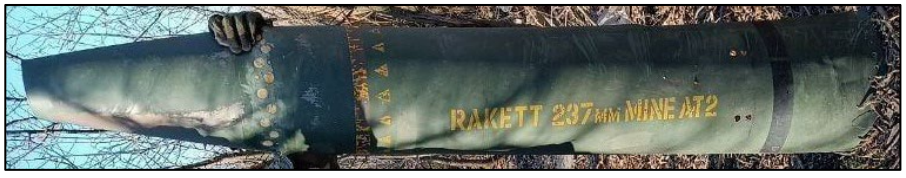
Scatterable Mines



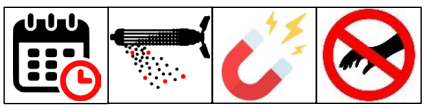


AT2 / DM1399
(HEAT)
Diameter:103.5mm
Height of body:128mm
Total height: 580mm
Country of origin: Germany, Norway





PTM-L1 VR-6
(EFP)
Diameter of body: 102mm
Height of body: 66mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: Ukraine



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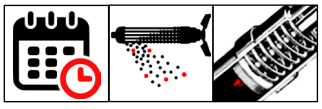
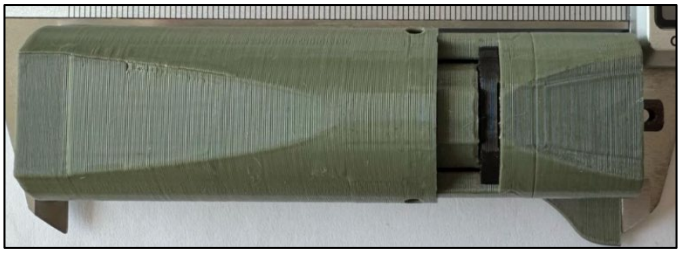
Scatterable Mines

“Corn”
(HE-frag)

Diameter: 50mm
Length without fuze: 400mm
Length with VZD-3M fuze:
INFORMATION NEEDED
Country of origin: russia

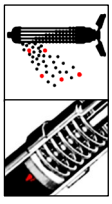
Shahed-136 / Geran-2 Series





“Wing” / “IQOS”
(HE)

Diameter of body: 29.8mm
Length of body: 106.5mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: Ukraine



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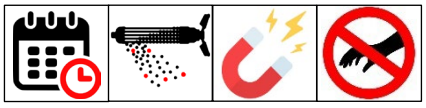
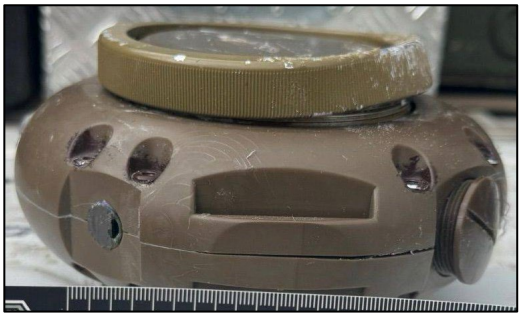
Scatterable Mines

PTM-K2N
(HEAT)
Diameter: 76mm
Height: 140mm

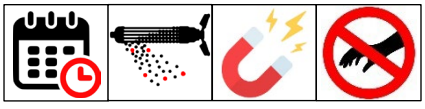
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: russia

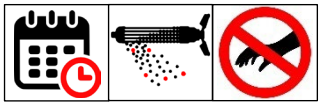




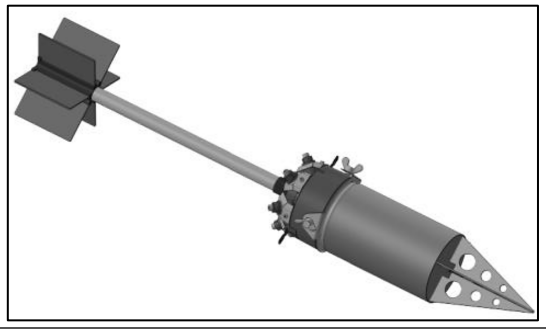
“Kalach”
(HEAT)
Diameter: 180mm
Height: 100mm

Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: russia





OZM-25
(bounding, fragmentation)
Diameter: 114mm
Height: 800mm
Note: Each mine deploys 6 tripwires.
Country of origin: Ukraine



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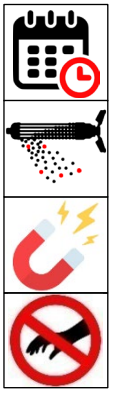
Scatterable Mines

K-2 "Bandera"
(fragmentation)

Dimensions: varies
Note: There is variation in the design and construction of these mines. In general, each mine deploys 4 tripwires; a magnetic fuze with long delay self destruct may be installed as well.
Country of origin: Ukraine



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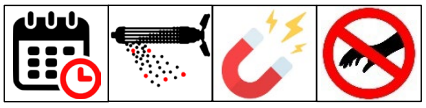
Scatterable Mines

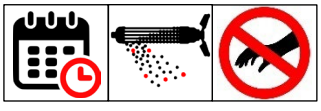
STIK-F
(HE)

Diameter: 38mm
Length: 195mm
Note: Normally used with the STIK PA fuze.
Country of origin: Ukraine



Dyke Pole (DP)
(HE)

Diameter: 40mm
Length: 135mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced. Normally used with the PDP fuze.
Country of origin: Ukraine



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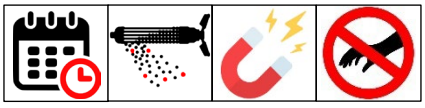
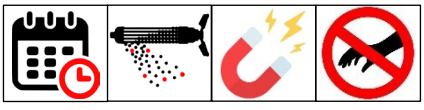
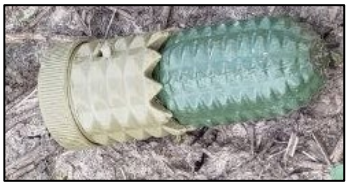
Scatterable Mines

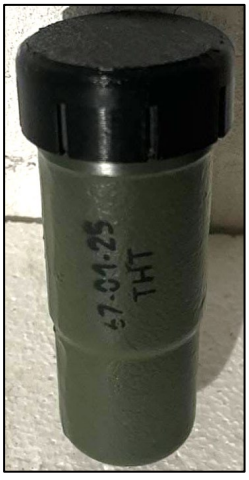
IBM-1 "Houston"
(HE-frag)
Diameter: 72mm
Length: 232mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: Ukraine



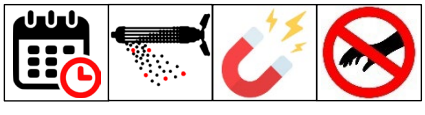
IBM-0.5 "New York"
(HE-frag)
Diameter: 56mm
Length: 148mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: Ukraine







IBM-0.2 "Austin"
(HE-frag)
Diameter: 39mm
Length: 94mm
Note: Although normally dropped from drones as a scatterable mine, these can also be hand-emplaced.
Country of origin: Ukraine



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Antipersonnel Grenades

Antipersonnel grenades are designed to injure or kill personnel, usually through a combination of blast and fragmentation effects. This section also includes thermobaric grenades.

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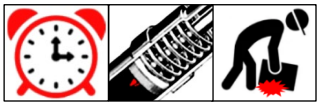
Antipersonnel Grenades

F-1
(fragmentation)
Diameter: 55mm
Total height: 116.8mm
Body Height: 86mm
Country of origin: USSR, russia

Metal Body RGD-5
(HE-frag)
Diameter: 58.4mm
Total height: 116.8mm
Country of origin: USSR, russia

Plastic Body RGD-5
(HE-frag)
Diameter: 57mm
Total height with DVM fuze: 95mm
Height of body: 80mm
Country of origin: Bulgaria



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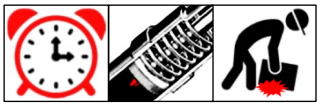
Antipersonnel Grenades

RGN
(HE-frag)
Diameter: 60mm
Total height with UDZ Fuze: 114mm
Country of origin: USSR

RGO
(HE-frag)
Diameter: 60mm
Total height: 114mm
Country of origin: USSR

M67
(HE-frag)
Diameter: 63.5mm
Height of body: 65mm
Total height: 89.6mm
Country of origin: USA



RG-4
(HE-frag)
Diameter: 53mm
Height: 84mm
Country of origin: Czech Republic

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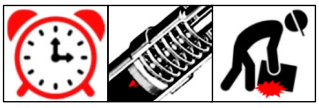
Antipersonnel Grenades

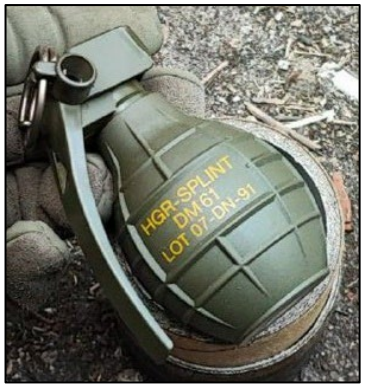
DM51 Series
(HE-frag or HE)

Dimensions of Defensive Configuration:
- Diameter: 57mm
- Length: 107mm

Dimensions of Offensive Configuration:
- Diameter: 33.5mm
- Length: 100mm

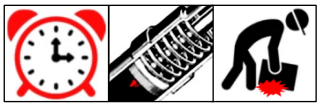
Country of origin: Germany





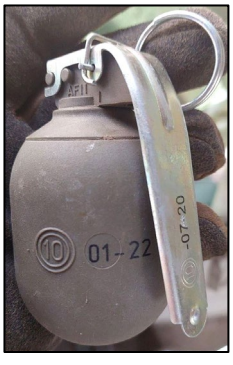
DM61 Series
(HE-frag)

Diameter: 57mm
Total height: 103mm
Country of origin: Germany



RG-60TB
(thermobaric)

Diameter: 60mm
Height of body: **INFORMATION NEEDED**
Total height with U-517M fuze: 180mm
Country of origin: russia



GHO-1
(HE-frag)

Diameter: 56mm
Total height: 95mm
Country of origin: Bulgaria

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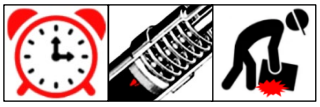
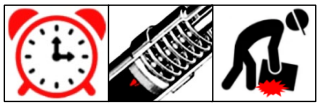
Antipersonnel Grenades

M72
(HE-frag)
Diameter: 52mm
Total height: 85mm
Country of origin: Belgium

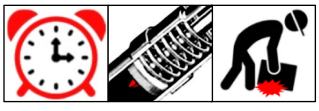


RG-42
(HE-frag)
Diameter: 58mm
Total height: 121mm
Height of body: 71mm
Country of origin: russia

MK 14 Mod 0 / ASM
(HE-frag)
Diameter: 64mm
Total height: 135mm
Body Height: 112mm
Country of origin: USA



F1
(HE-frag)
Diameter: 58mm
Total height: 96mm
Country of origin: Australia



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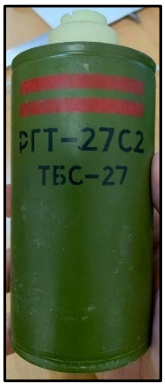
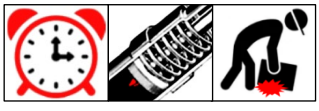
Antipersonnel Grenades

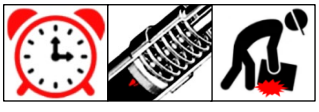


RGT-27S2
(thermobaric)
Diameter: 61mm
Total height with UZRGM fuze: 180mm
Height of body: 114mm
Country of origin: Ukraine

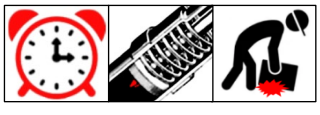
M50P3
(HE-frag)
Diameter: 54mm
Total height: 105mm
Height of body: 78mm
Country of origin: Former Yugoslavia



M52P3
(HE-frag)
Diameter: 55mm
Total height: 108mm
Height of body: 79mm
Country of origin: Former Yugoslavia



OF 37
(HE-frag)
Diameter: 60mm
Total height with Mle F3 fuze: 96mm
Height of body: 83mm
Country of origin: France



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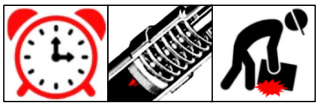
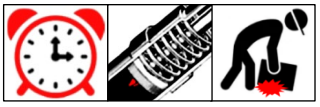
Antipersonnel Grenades

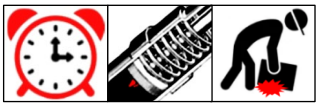
m/963
(HE-frag)
Diameter: ~57mm
Total height: ~99mm
Height of body: ~76mm
Country of origin: Portugal



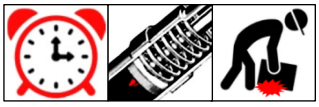
Sirpalekäsikranaatti M/50
(HE-frag)
Diameter: 50mm
Height of body: 94mm
Total height: 125mm
Country of origin: Finland



M/54
(HE-frag)
Diameter: 57mm
Height of body: **INFORMATION NEEDED**
Total height: 95mm
Country of origin: Denmark



RGO-78
(HE-frag)
Diameter: 61mm
Height of body: 80mm
Total height with DVM fuze: 95mm
Country of origin: Bulgaria



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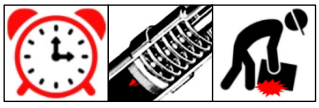
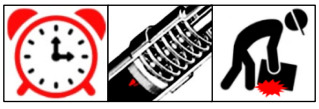
Antipersonnel Grenades

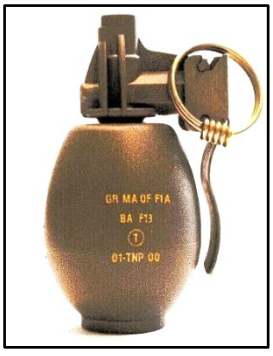
Shgr 2000
(HE-frag)
Diameter: 52mm
Height of body: **INFORMATION NEEDED**
Total height: 94mm
Country of origin: Sweden



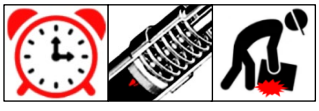


HGO115M-3,5
(HE)
Diameter: ~53mm
Height with fuze: ~85mm
Note: Multiple grenade bodies can be connected together for a greater effect.
Country of origin: Norway

MK2 MOD 44
(fragmentation)
Diameter: **INFORMATION NEEDED**
Height of body: **INFORMATION NEEDED**
Total height with M204A2 fuze: 120mm
Country of origin: Turkey



OF F1A / LU 216
(HE-frag)
Diameter: 52mm
Height of body: 67mm
Total height with Mle F13 fuze: 102mm
Country of origin:
France



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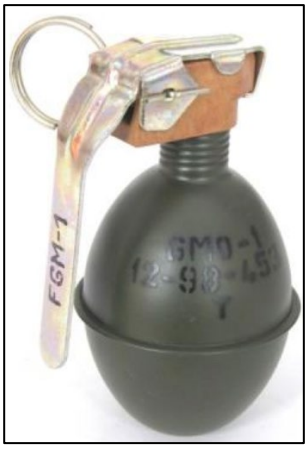
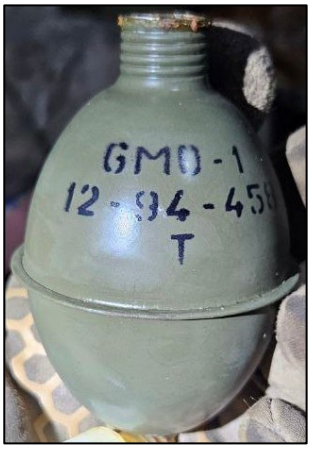
Antipersonnel Grenades

F-1 (Romania)
(fragmentation)

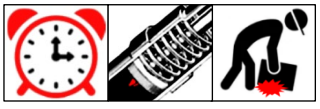
Diameter: 56mm
Height of body: **INFORMATION NEEDED**
Total height with FGM-R fuze: 100mm
Country of origin: Romania

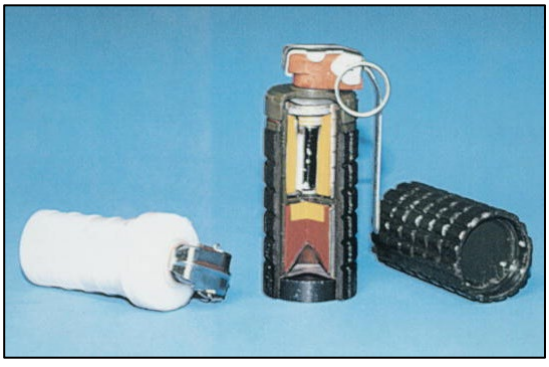




GMO-1 / M92
(HE-frag)

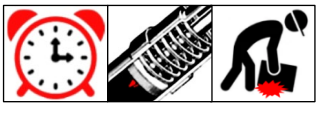
Diameter: 61mm
Height of body: 86mm
Total height with FGM-1 fuze: 122mm
Country of origin: Romania





GMM
(fragmentation, HE-frag or HEAT)

Dimensions of defensive configuration:
Diameter: 48mm
Length: **INFORMATION NEEDED**
Dimensions of offensive configuration:
Diameter: 40mm
Length: **INFORMATION NEEDED**
Dimensions of HEAT configuration:
Diameter: 48mm
Length: **INFORMATION NEEDED**
Note: This grenade can be configured in three different ways: offensive, defensive, and HEAT.
Country of origin: Romania



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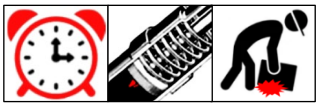
Antipersonnel Grenades

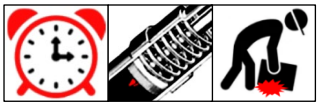
RGZ-89
(HE-frag)
Diameter: 59mm
Total height with
UZRGM fuze: 130mm
Height of body: 98mm
Country of origin: Poland



RG-60TBO1
(thermobaric/fragmentation)
Diameter: 56.5mm
Total height with fuze: **INFORMATION NEEDED**
Height of body: 91mm
Country of origin: russia

S.R.C.M. Mod 35
(HE-frag)
Diameter of body: 55mm
Height: 80mm
Country of origin: Italy

HGO-TA
(HE-frag)
Diameter: 60mm
Height of body: **INFORMATION NEEDED**
Total height with DVM fuze: 100mm
Country of origin: Bulgaria



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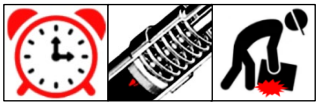
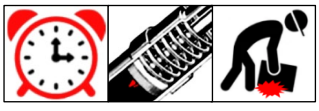
Antipersonnel Grenades

MF 2000 G
(HE-frag or HE)
Diameter: **INFORMATION NEEDED**
Total height with fuze: **INFORMATION NEEDED**
Height of body: **INFORMATION NEEDED**
Country of origin: Italy



Spl HGr 85
(HE-frag)
Diameter: 57mm
Total height with fuze: 96mm
Height of body: **INFORMATION NEEDED**
Country of origin: Austria



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Antitank Grenades

Intended to defeat tanks and vehicles.

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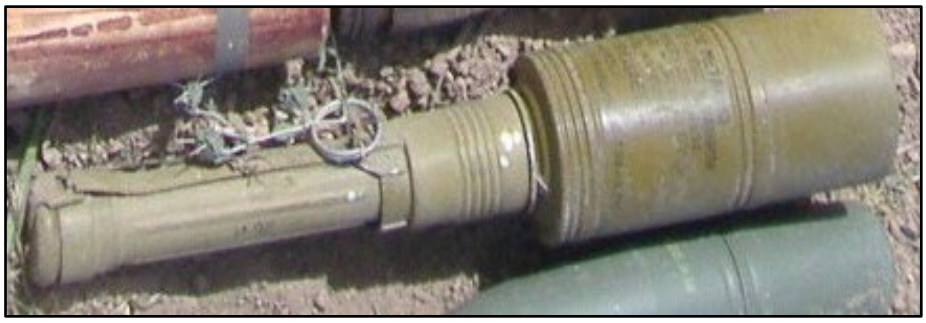
Anti-tank Grenades



RKG-3
(HEAT)
Diameter: 65mm
Total length: 361mm
Country of origin: USSR

RKG-3EM / RKG-3E-M
(HEAT)
Diameter: 78mm
Total length: 388mm
Country of origin: russia

BRK-M79
(HEAT)
Diameter: 74.5mm
Total length: 399mm
Country of origin: Serbia

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Chemical Grenades

Chemical grenades contain toxic substances designed to irritate, incapacitate, or wound personnel. The toxic substances are normally released as a gas or aerosol. The amount of harm these grenades can cause varies depending on the chemical used as well as environmental factors (wind, temperature, confinement, etc.)

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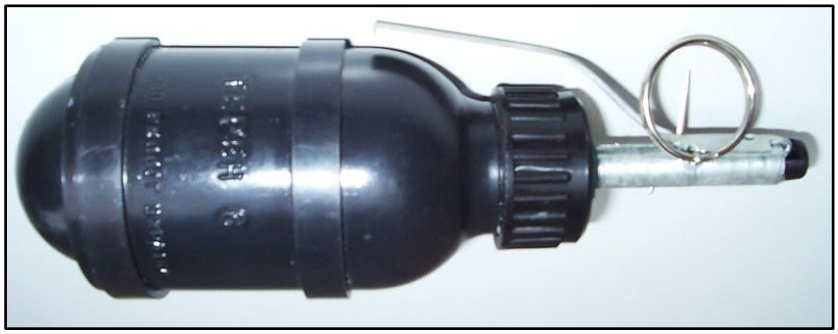
Chemical Grenades

K-51
(CS gas)
Diameter: 55mm
Height of body: 82mm
Height with fuze: 130mm
Country of origin: russia

RG-60AZ "Dreif-2"
(riot control gas)
Diameter: 60mm
Height of body: 122mm
Height with U-517M fuze: 175mm
Country of origin: russia

RGR
(CS gas)
Diameter: 58mm
Total height with U-517M fuze: 175mm
Country of origin: russia



Teren-6
(CS gas)
Diameter: 61mm
Height of body: 145mm
Total length: 185mm
Country of origin: Ukraine

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Chemical Grenades

RGK-60KD
(CS gas, flashbang)
Diameter: 58mm
Length: 173mm
Note: Contains 4 flashbang and 3 irritant elements.
Country of origin: russia

RGK-60RD
(CS gas)
Diameter: 58mm
Length: 173mm
Note: Contains 7 irritant elements.
Country of origin: russia

RG-Vo
(CN gas)
Diameter: 55mm
Height with fuze:
INFORMATION NEEDED
Height of body: 112mm
Country of origin: russia

Drofa-PM
(riot control gas, flashbang)
Diameter: 64mm
Height with fuze: 214mm
Note: Contains 4 flashbang and 3 irritant elements.
Country of origin: russia

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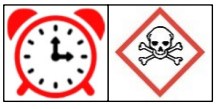
Chemical Grenades

ALSG272
(CS gas)
Diameter: 62mm
Height of body: **INFORMATION NEEDED**
Height with M201A1 fuze: 152mm
Country of origin: USA

UGŁ-200 and UGŁ-200/1
(CN gas)
Diameter: ~51mm
Length: ~185mm
Country of origin: Poland



ABC-M25A2
(CS-1 gas)
Diameter: 75mm
Height with fuze: 84mm

Note: This grenade may or may not be marked with a yellow band around the body.
Country of origin: USA

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Smoke Grenades

Smoke grenades are designed to quickly produce relatively large amounts of smoke. This smoke may be used to screen the movement of friendly forces, or it can be used for signaling and marking purposes.

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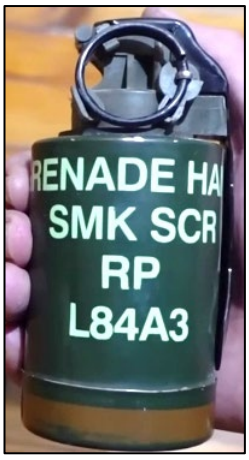
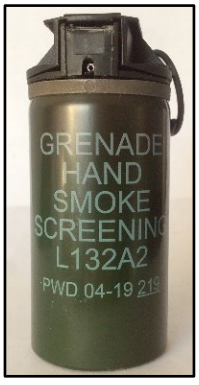
Smoke Grenades



L84 Series
(smoke / red phosphorus)
Diameter: 60mm
Height of body: 101mm
Total height: 129mm
Country of origin: Germany, UK



L132A2
(smoke)
Diameter: 55mm
Length of body: ~100mm
Total length: 124mm
Country of origin: UK

DG-01
(smoke)
Diameter: 51mm
Height of body: 131mm
Total height: ~155mm
Country of origin: Ukraine

RDG-M
(smoke / red phosphorus)
Length:170mm
Diameter: 58mm
Country of origin: russia

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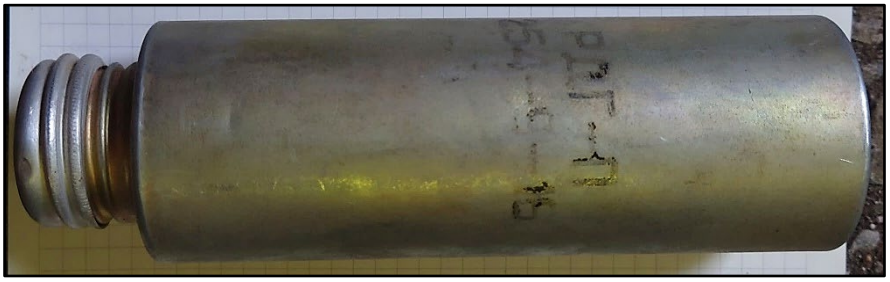
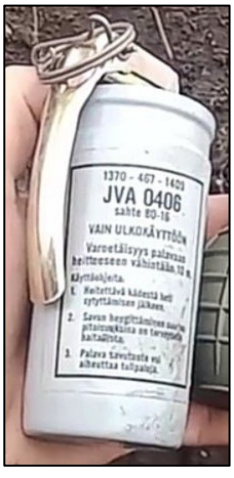
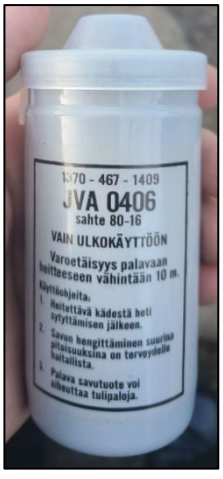
Smoke Grenades



RDG-P
(smoke)
Length with cap: 162mm
Diameter: 47mm
Country of origin: russia

RDG-55Ch
(black smoke)
Diameter: 50mm
Length: 220mm
Country of origin: Ukraine





JVA 0406
(grey smoke)
Diameter: 53mm
Total height: 127mm
Height of body: ~107mm
Country of origin: Finland

M18
(colored smoke)
Diameter: 64mm
Height of body: 125mm
Total height: 146mm
Note: Produces yellow, green, violet, or red smoke.
Country of origin: USA

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Smoke Grenades

M83 TA
(white smoke)
Diameter: 64mm
Height of body: 125mm
Total height: 146mm
Country of origin: USA

MIL-X
(colored smoke)
Diameter: 60mm
Height of body:
INFORMATION NEEDED
Total height: 160mm
Note: There are at least 9 variants of this model, which produce 9 different colors.
Country of origin: USA

GR MA FUM 56
(white smoke)
Diameter: 55mm
Height of body:
INFORMATION NEEDED
Total height: ~160mm
Note: These grenades can be connected together for longer production of smoke.
Country of origin: France

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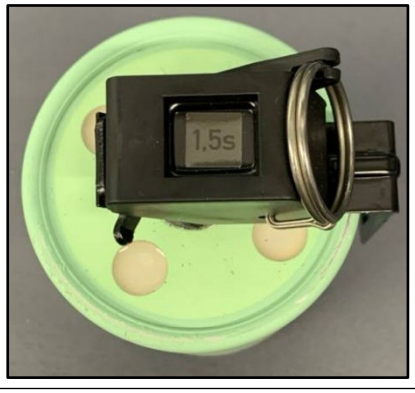
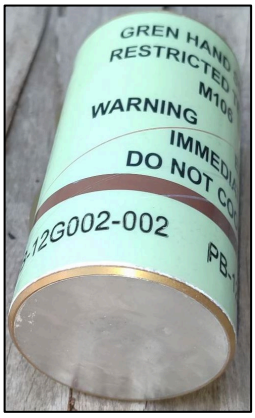
Smoke Grenades

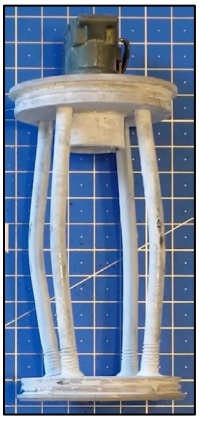
MK 17 MOD 0
(green smoke)
Diameter: **INFORMATION NEEDED**
Height of body: **INFORMATION NEEDED**
Total height: **INFORMATION NEEDED**
Country of origin: USA

Rökhandgranat 05
(smoke / red phosphorus)
Diameter: 62mm
Height of body:
INFORMATION NEEDED
Total height: 130mm
Country of origin: Sweden



DM45
(smoke)
Diameter: 74mm
Height of body: 115mm
Total height: 150mm
Country of origin: Germany





M106
(white smoke)
Diameter: 55mm
Height of body: 113.5mm
Total height: 139mm
Country of origin: USA

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Smoke Grenades

GR MA FC F5
(colored smoke)
Diameter: 55mm
Height of body: **INFORMATION NEEDED**
Total height: 156mm
Note: Produces yellow, green, or red smoke.
Country of origin: France

GR MA FAR
(white smoke)
Diameter: 56mm
Height of body: **INFORMATION NEEDED**
Total height: 134mm
Note: May be used with a fuze that has zero delay.
Country of origin: France

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Miscellaneous Grenades

Miscellaneous grenades include those that produce light and noise (flashbangs), start fires through incendiary effects, etc.

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Miscellaneous Grenades

ZMG
(incendiary)

Length: 220mm
Diameter: 61mm
Note: This grenade can be set for much longer time delay durations and used as a sabotage device. Additional bodies can be connected for a greater incendiary effect.
Country of origin: USSR

AN-M14
(incendiary)

Diameter: 63.5mm
Height of body: 114mm
Total height: 145mm
Country of origin: USA

GRTZ
(incendiary)

Diameter: 55mm
Height of body: 135mm
Total height:
INFORMATION NEEDED
Country of origin: russia

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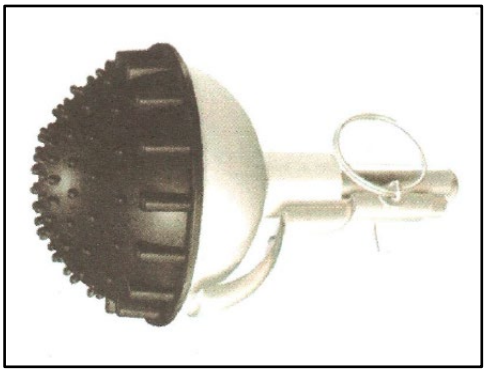
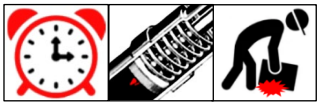
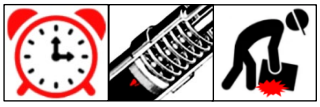
Miscellaneous Grenades



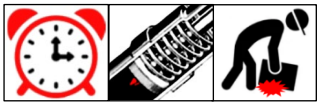
Zarya-3
(flashbang)
Diameter: 64mm
Height: 120mm
Country of origin: russia



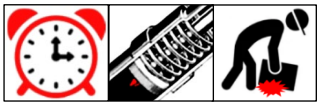
Zarya
(flashbang)
Diameter: 64mm
Height: 120mm
Country of origin: russia



ALS09NR
(flashbang)
Diameter: 44mm
Height of body: **INFORMATION NEEDED**
Height with M201A1 fuze: 114mm
Country of origin: USA



Teren-7M
(flashbang)
Diameter: 49mm
Length of body: 80mm
Total length: 135mm
Country of origin: Ukraine



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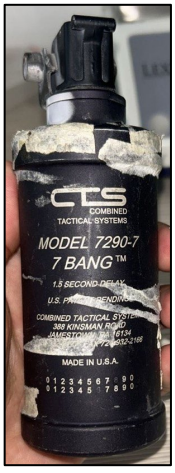
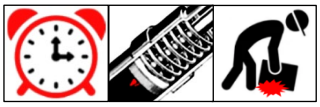
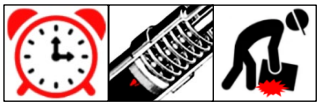
Miscellaneous Grenades





Model 7290-7
(flashbang)
Diameter: 53mm
Height of body: **INFORMATION NEEDED**
Height with M201A1 fuze: 145mm
Country of origin: USA

X F1
(practice)
Diameter: 53mm
Height of body: 73mm
Height with F6A fuze: 105mm
Note: These grenades contain a pyrotechnic spotting charge.
Country of origin: France



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Rifle Grenades

These are grenades specifically designed or adapted to be fired/launched from the muzzle of a rifle.

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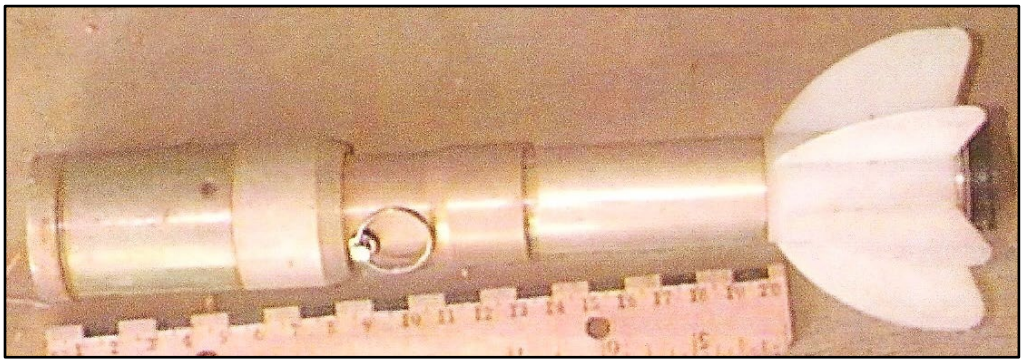
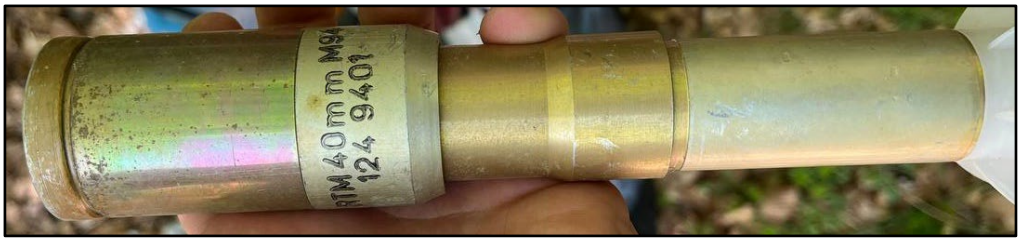
Rifle Grenades

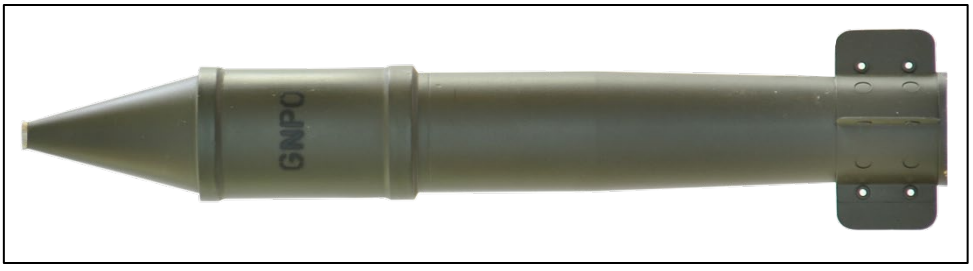




M94
(HEAT)
Diameter: 40mm
Length: 265mm
Tailspan: 82mm
Country of origin:
Former Yugoslavia

M60
(HE-frag)
Diameter: 30mm
Length: 307mm
Country of origin:
Former Yugoslavia

PGN-60
(HEAT)
Diameter: 68mm
Length: 406mm
Country of origin:
Poland



GNPO
(HEAT, fragmentation)
Diameter: 40mm
Length: 279mm
Tailspan: 60mm
Country of origin:
Poland

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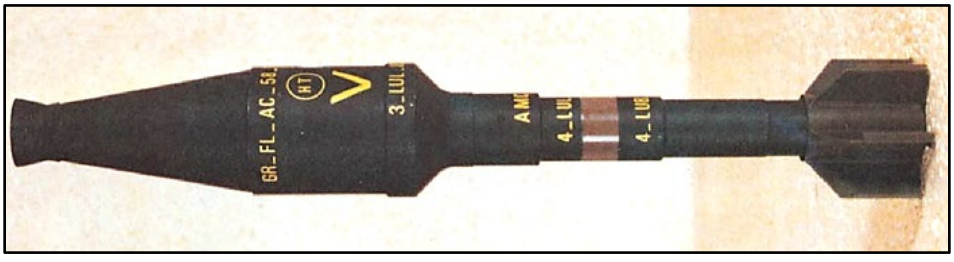
Rifle Grenades

KGN
(HE-frag)
Diameter: 60mm
Length: 240mm
Country of origin: Poland



GR FL AC 58 PAB
(HEAT)
Diameter: 58mm
Length: 390mm
Country of origin: France

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Antipersonnel Land Mines

Antipersonnel mines are designed to destroy or wound enemy personnel. In general, they use either blast or fragmentation as their primary mechanism of inflicting casualties. Antipersonnel landmines that primarily use fragmentation are usually directional in nature, or, have a bounding warhead.

Antipersonnel landmines that are primarily designed to be dropped or dispensed from drones or aircraft will be found in Scatterable Mines.

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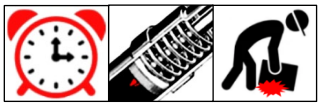
Antipersonnel Land Mines

PMD-6/7 (HE)
Dimensions: varies
Note: These are handmade versions based on the old Soviet models. Bodies may be made of wood, plastic, or metal.
Country of origin: russia

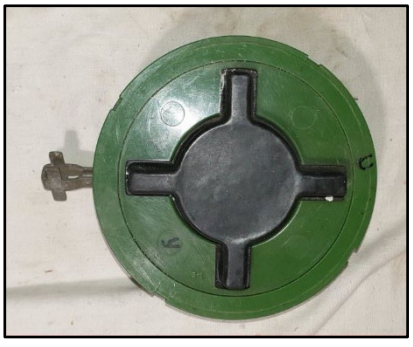


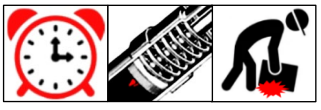
PMN
(HE)

Diameter: 110mm
Height: 53mm
Country of origin: USSR

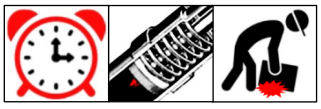
PMN-2
(HE)

Diameter: 121 mm
Height: 52 mm
Country of origin: USSR





PMN-4
(HE)
Diameter: 95mm
Height: 42mm
Country of origin: russia



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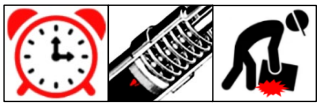
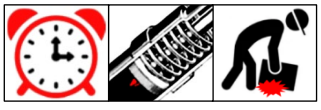
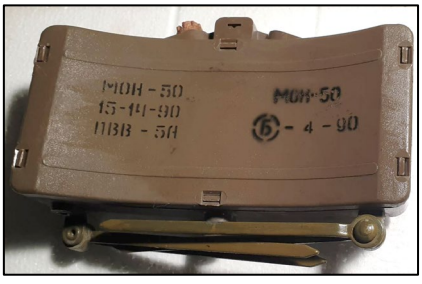
Antipersonnel Land Mines

M18A1 Claymore
(directional fragmentation)
Length: 216mm
Height of body: 83mm
Total height: 171mm
Thickness: 35mm
Country of origin: USA



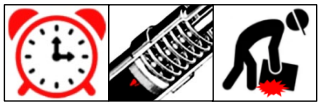
MON-50
(directional fragmentation)
Length: 226мм
Height: 155мм
Width: 35мм
Country of origin: USSR





MON-90
(directional fragmentation)

Length: 345mm
Height: 202mm
Width: 153mm
Country of origin: USSR



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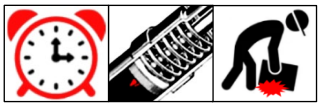
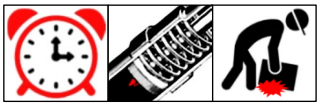
Antipersonnel Land Mines

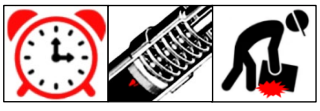
MON-100
(directional fragmentation)
Diameter: 236mm
Width: 82mm
Country of origin: USSR



MON-200
(directional fragmentation)
Diameter: 434мм
Height:130мм
Country of origin: USSR



POB "Saw"
(bounding, fragmentation)
Height: 170mm
Diameter of body: 90mm
Country of origin: russia



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Antipersonnel Land Mines

POM-2R Series
(fragmentation)
Diameter: 68.5mm
Height: 165mm
Note: These are the hand-emplaced versions of the POM-2 mines.
Country of origin: russia

POM-2R BS
(fragmentation)
Diameter: 68.5mm
Height: 165mm
Note: This is a variant of the POM-2R that does not have a self-destruct feature.
Country of origin: russia

MIB "Insert"
(fragmentation)
Diameter: 61.5mm
Height with ZMG-1 fuze: 170mm
Note: This is a version of the POM-2 Series that the user can select to act either as a hand-emplaced POM-2 or as a throwable grenade.
Country of origin: russia

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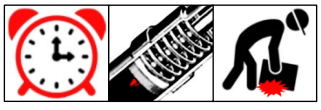
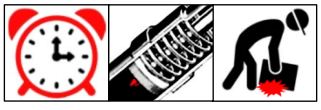
Antipersonnel Land Mines



MOB
(directional fragmentation)
Length: **INFORMATION NEEDED**
Height: **INFORMATION NEEDED**
Width: **INFORMATION NEEDED**
Country of origin: russia



Mini Hailstorm (directional fragmentation)
Length: 106mm
Height: 83mm
Width: **INFORMATION NEEDED**
Country of origin:Finland

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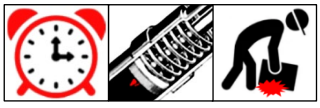
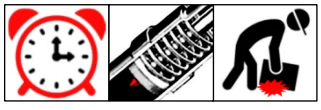
Antipersonnel Land Mines

PVP-50
(directional fragmentation)
Length of body: 223mm
Height of body: 105mm
Thickness of body: 47mm
Country of origin: Ukraine

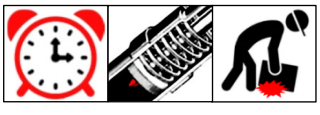
PVP-100
(directional fragmentation)
Diameter of body: 260mm
Thickness of body: 76mm
Country of origin: Ukraine



PVP-200
(directional fragmentation)
Diameter of body: 400mm
Thickness of body: 100mm
Country of origin: Ukraine



OZM-72
(bounding, fragmentation)
Diameter: 106mm
Height of body:
150mm
Country of origin: USSR



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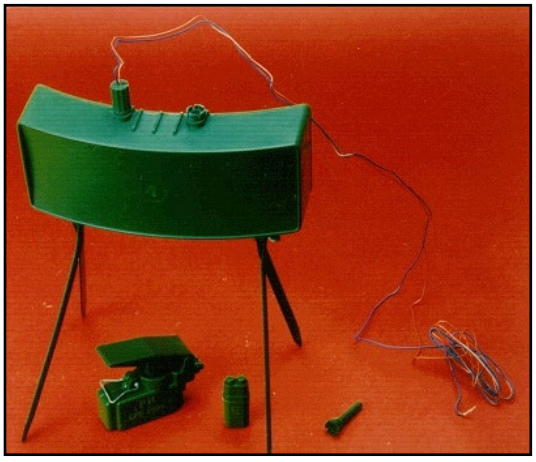
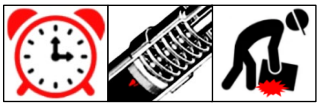
Antipersonnel Land Mines



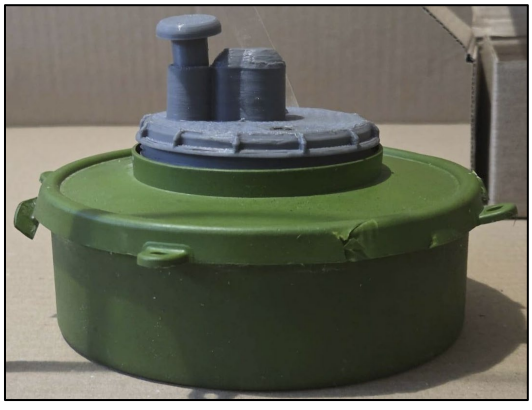
MRUD
(directional fragmentation)
Length: 230mm
Height of body: 100mm
Width: 50mm
Country of origin: Former Yugoslavia



HFM0050
(shaped charge)
Diameter: 40mm
Diameter of body: 27mm
Height: 100mm
Note: This munition is also used as a warhead on small FPV drones.
Country of origin: Ukraine

Dzyga
(HE-frag)
Diameter of body: 132mm
Height of body: 76mm
Country of origin: Ukraine

Note: Designed be used with 2-4 tripwires.



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Antitank Landmines

Anti-tank mines are designed to destroy enemy armored vehicles, lightly armored vehicles and unarmored vehicles. They may use shaped charges, Explosively Formed Penetrators (EFPs), or large amounts of explosives (blast) to accomplish this.

Antitank landmines that are primarily designed to be dropped or dispensed from drones or aircraft will be found in Scatterable Mines.

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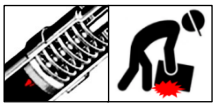
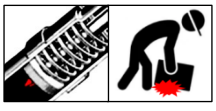
Antitank Landmines



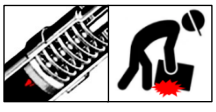
TM-46 and TMN-46
(HE)
Diameter: 304.8mm
Height without fuze: 94mm

Note: TMN-46 is distinguished by the presence at the bottom of the mine of a special cavity for installing a fuze, which performs the function of an anti-lifting device.
Country of origin: USSR

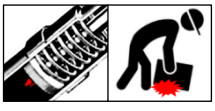
TM-57
(HE)
Diameter: 312mm
Height without fuze: 119mm
Note: Has a side fuze well for the installation of an additional fuze.
Country of origin: USSR



TM-62M
(HE)
Diameter: 320mm
Height: 102mm
Country of origin: USSR



TM-62D (HE)
Width: 340mm
Length: 295mm
Height with fuze: 178mm
Note: Uses the MVP-62 and MVCh-62 Fuzes.
Country of origin: USSR



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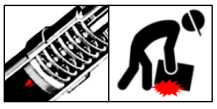
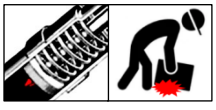
Antitank Landmines

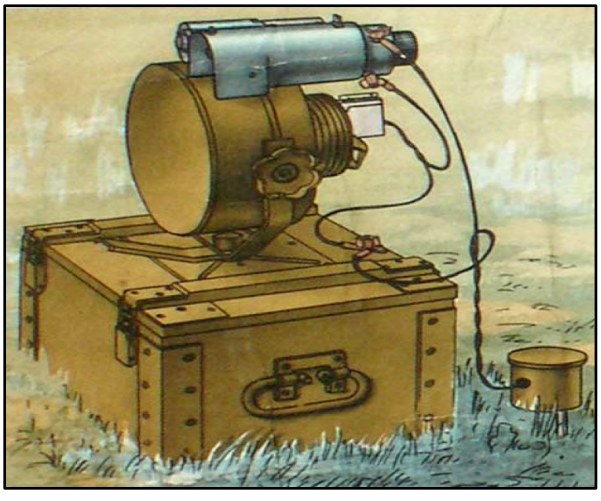
TM-62P2 (HE)
Diameter: 320mm
Height with fuze: 128mm
Note: Uses the MVP-62 and MVCh-62 fuzes.
Country of origin: USSR



TM-62P3 (HE)
Diameter: 320mm
Height with fuze: 128mm
Note: Uses the MVP-62 and MVCh-62 fuzes.
Country of origin: USSR



TM-72 (EFP)
Diameter: 250mm
Height without fuze:82mm
Height with MVN-72 fuze: 128mm
Note: May be used with the MVN-72 or MVN-80 magnetic-influence fuzes.
Country of origin: russia



TM-83
(EFP)
Length: 455mm
Width: 377mm
Height when installed on the lid of the box: 440mm
Country of origin: russia

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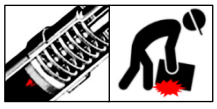
Antitank Landmines

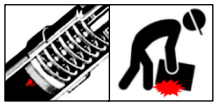


TM-124
(HE)

Diameter: 320mm
Height: 125mm
Note: This mine uses two internal fuzes.
Country of origin: Ukraine

MC-71
(HEAT)

Diameter: 350mm
Height of body: 260mm
Height of tilt rod: 650mm



Note: The tilt rod fuze is placed close to the mine body and connected by a length of detonating cord.
Country of origin: Romania

M-14/PK-14
(EFP)

Depth of the warhead: 110mm
Diameter of the warhead: 160mm
Country of origin: Estonia

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Antitank Landmines

PTKM-1R
(EFP)

Height of the mine: 510mm
Diameter of the mine: 181mm
Diameter of the warhead section: 220mm
Note: This mine uses a combination of acoustic and seismic sensors to activate.
Country of origin: russia

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Antitank Landmines

HPD2A2
(EFP)
Width: 105мм
Length: 280мм
Height: 185mm
Country of origin: France

DM31
(EFP)

Height: 120mm
Diameter: 250mm
Country of origin: Germany

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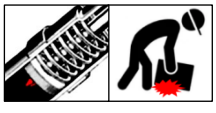
Antitank Landmines

PARM 2 / DM22
(HEAT)
Diameter: 128mm
Length: 640mm
Height: 391mm
Diameter of the warhead: 132mm
Country of origin: Germany

Stridsvagnsmina m/52B
(HE)
Diameter: 345mm
Height without fuze: 72mm
Height with m/47 fuze: 152mm
Country of origin: Sweden



MATS/1.4
(HE)
Diameter: 220mm
Height: 90mm
Country of origin: Italy

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Antitank Landmines

C-3-B
(HE)

Diameter: 290mm
Height of body: 60mm
Height with fuze: 115mm
Country of origin: Spain

DM11
(HE)

Diameter: 300mm
Height: 95mm
Note: Uses the DM46 fuze.
Country of origin: Germany

Pansermine M/56
(HE)

Diameter: 300mm
Height: 110mm
Note: Uses the M/66 fuze.
Country of origin: Denmark

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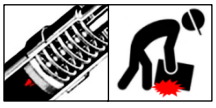
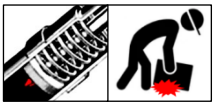
Antitank Landmines

MAT-76
(HE)
Diameter: 320mm
Height of body: 80mm
Height with P-62 fuze: 135mm
Country of origin: Romania



PT-Mi-Ba-III
(HE)
Diameter: 330mm
Height: 108mm
Country of origin: Czech Republic



MI AC AH F1
(EFP)
Diameter: 200mm
Length: 260mm
Height: 350mm
Country of origin: France

KRM-T / PTM-4R
(HEAT)
Length: 390mm
Width: 118mm
Height: 69mm
Note: This is the hand-emplaced version of the PTM-4 mine.
Country of origin: russia

PTM-4

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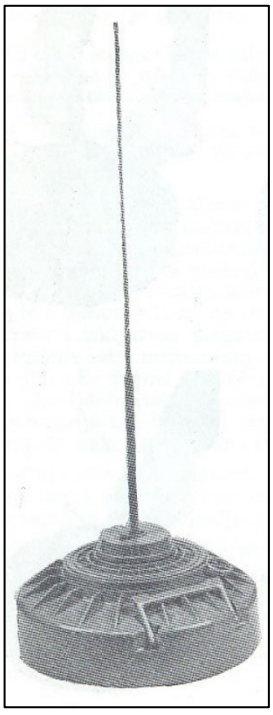
Antitank Landmines

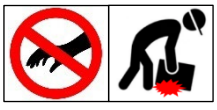


TMRP-6
(EFP)

Diameter: 290mm
Height without tilt rod: 137mm
Height with tilt rod: 726mm
Country of origin: Serbia

M21
(EFP)

Diameter: 230mm
Height of body: 115mm
Height with tilt rod: 813mm
Country of origin: USA



UMK
(EFP)

Diameter: 262mm
Height without tilt rod: 226mm
Height with tilt rod: 1010mm
Country of origin: Poland

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Antitank Landmines

PT-Mi-U
(EFP)

Diameter: 320mm
Height without tilt rod: 128mm
Height with tilt rod: ~600mm
Country of origin: Czech Republic

M6A2
(HE)

Diameter: 333mm
Height of body: 86mm
Note: Uses the M603 fuze.
Country of origin: USA

M15
(HE)

Diameter: 337mm
Height of body: 125mm
Note: Uses the M603 fuze.
Country of origin: USA

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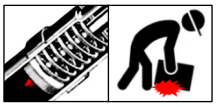
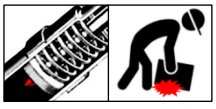
Antitank Landmines

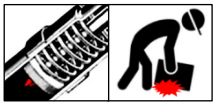
MKTBT
(HE)
Diameter: 337mm
Height: 105mm
Note: Uses a copy of the MV-5 fuze.
Country of origin: Albania



MAT-62B
(HE)
Diameter: 340mm
Height with P-62 fuze: 134mm
Country of origin: Romania



ATM-01
(HE)



Diameter: 300mm
Height of body: 92mm
Height with ATM-01TAC fuze: 126mm
Country of origin: Bulgaria

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Antitank Landmines

TMA-3
(HE)

Diameter: 265mm
Height of body: 80mm
Height with UTMAH-3 fuze: 140mm
Country of origin: Former Yugoslavia

TMA-4
(HE)

Diameter: 285mm
Height of body: 65mm
Height with UTMAH-4 fuze: 110mm
Country of origin: Former Yugoslavia

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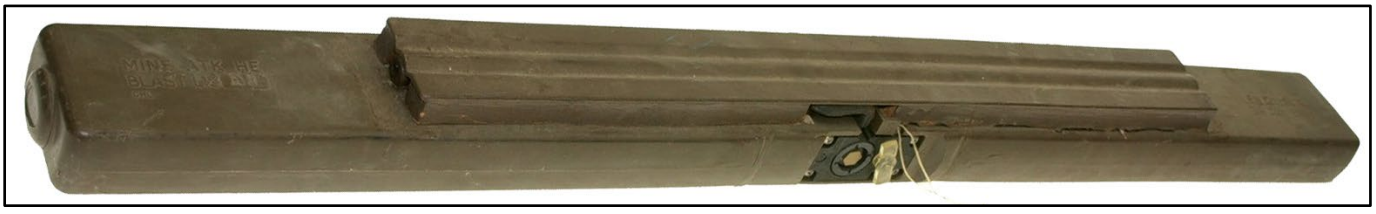
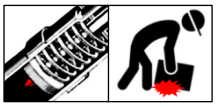
Antitank Landmines

MPT-23P2
(HE)
Diameter: 320mm
Height without fuze: 90mm
Note: Uses the same fuzes as TM-62 Series landmines.
Country of origin: Ukraine



L9A1 / L9A2 / L18A1 Barmine
(HE)
Length: 1200mm
Width: 108mm
Height: 81mm

Note: Uses the integral L89A1 pressure fuze.
Country of origin: UK



M19
(HE)
Length: 332mm
Width: 332mm
Height of body: 75mm
Height with M606 fuze: 94mm.
Country of origin: USA

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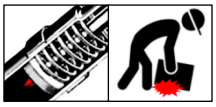
Antitank Landmines

“81年式塑膠反坦克地雷”
Type 81 Plastic Antitank Mine
(HE)

Diameter: 271mm
Height: 100mm
Country of origin: China



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Boobytrap Devices

Boobytrap devices are designed to kill or wound a victim in a surprising way; they contain a small amount of explosives that may also set of a larger explosive charge.

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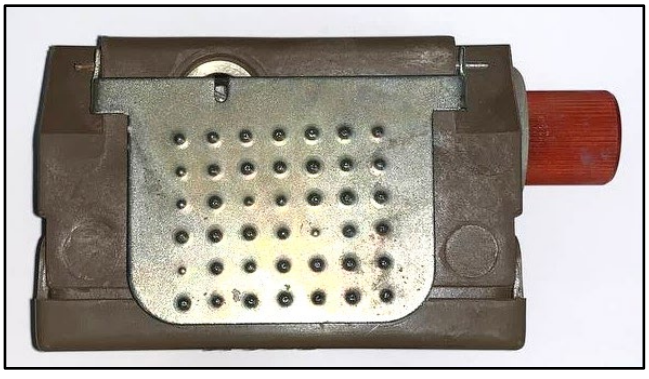
Boobytrap Devices

ML-7
(pressure-release)
Length: 72mm
Width: 69mm
Height: 30mm
Country of origin: USSR



ML-8
(pressure-release)
Length: 112mm
Width: 58mm
Height: 38mm
Country of origin: USSR

MS-3
(pressure-release)
Height: 65mm
Diameter: 110mm
Country of origin: USSR

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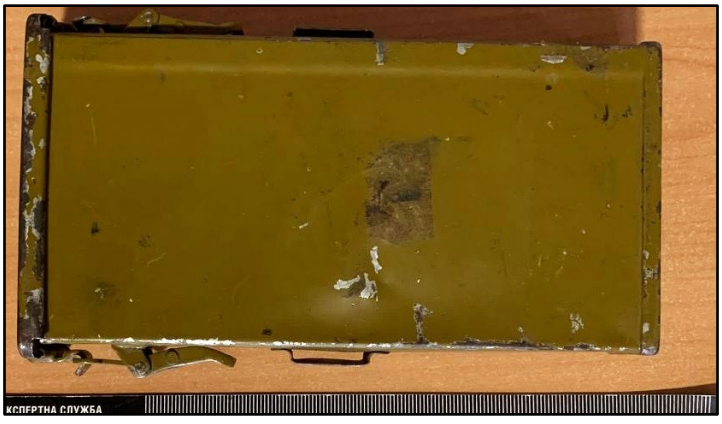
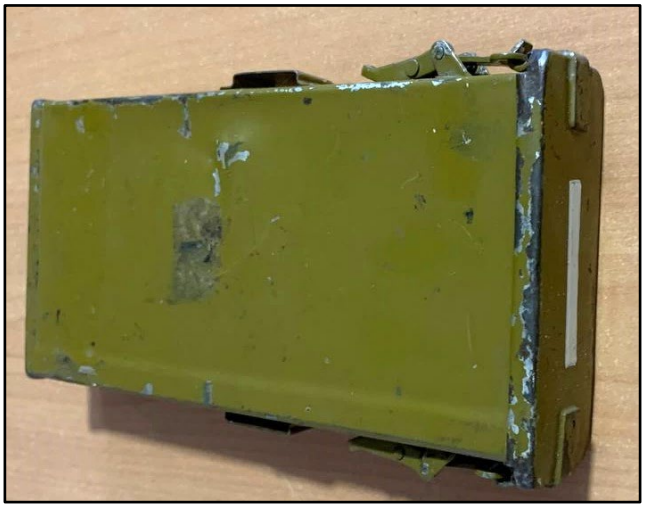
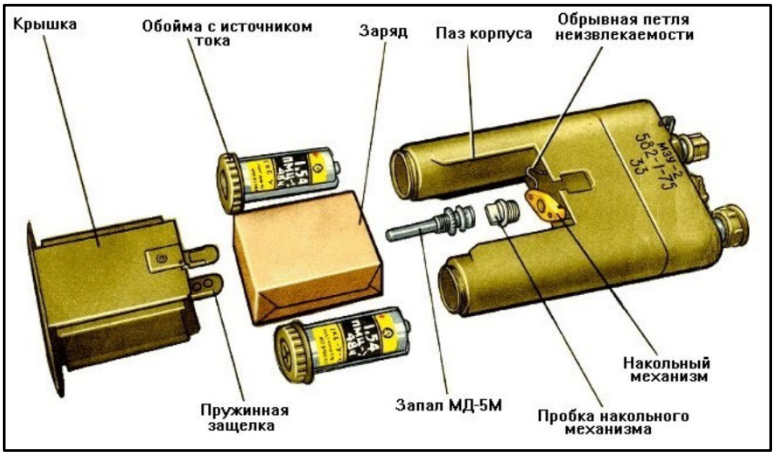
Boobytrap Devices



MS-4
(time delay, anti-disturbance)
Height: 31mm
Width: 92mm
Length: 155mm
Country of origin: russia





MZU-2 "Willow"
(multifunction)
Length: 193mm
Width: 116mm
Thickness: 32mm

Note: May be used with the VZD-144ch fuze.
Country of origin: russia

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Sea/River Mines

Sea and river mines are placed in the water to damage submarines, surface ships and enemy ships, as well as to complicate their movement.

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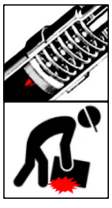
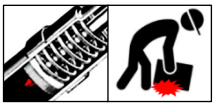
Anti-landing Mines

YaRM
(HE)
Diameter: 275mm

Height Without Fuze: 510mm
Height With Fuze: 900mm
Country of origin: russia/Ukraine



PDM-1M (HE-frag)
Diameter: 800mm
Height Without Fuze: **INFORMATION NEEDED**
Height With Fuze: 1m
Country of origin: russia/Ukraine



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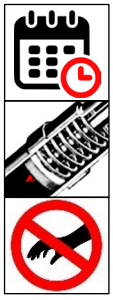
Anti-landing Mines

PDM-3Ya
(HE)
Diameter of body: 500mm

Height with fuzes: 730mm
Width with fuzes: 650mm
Length with fuzes: 900mm
Country of origin: russia



PDM-4 / KPDM-4
(HE)
Diameter of mine: 137mm
Diameter of cassette: 140mm

Height of mine: 447mm
Height of cassette: 480mm
Country of origin: russia

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Special Mines

Special mines are used for sabotage or other unusual purposes.

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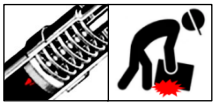
Special Mines



PMK-1
(HE)

Height without fuze: 141mm
Height with ZK-1 fuze: 195mm
Width: 115mm
Length: 330mm
Note: Although this mine is specifically designed to be used in an anti-railway role, it can easily be used with other fuzes for different purposes.
Country of origin: Poland

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Limpet Mines

Limpet mines are designed to be attached to the exterior of their targets and then detonate later at a predetermined time. Magnets are the most common mechanism by which they are attached. In addition to timers, they may also possess anti-removal fuzes or features; if anyone attempts to remove a limpet mine from its target, it will detonate.

Some limpet mines are designed specifically for use on land targets (such as vehicles, railroads, fuel tanks, etc.) while others are designed for naval targets (such as ships, submarines, etc.). Note that although naval limpet mines are designed specifically to be used underwater, they can usually be deployed on land with minimal or no modification.

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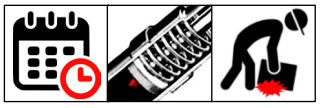
Limpet Mines

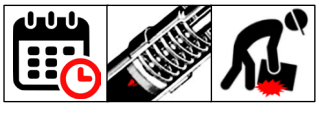
SPM
(HE)

Height: 75mm
Width: 115mm
Length without fuze: 280mm
Length with fuze: **INFORMATION NEEDED**
Note: Uses the VZD-1M fuze.
Country of origin: russia/Ukraine



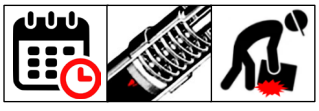
MPM
(HE)

Height: 50mm
Width: 75mm
Length without fuze: 150mm
Length with fuze: **INFORMATION NEEDED**
Note: Uses the VZD-3M fuze.
Country of origin: USSR



UPM
(HE)

Height: 170mm
Width: 230mm
Length without fuze: 530mm
Length with fuze: **INFORMATION NEEDED**
Note: Uses the VZD-1M or VZD-20M fuzes. This mine also has an integral anti-removal mechanism!
Country of origin: USSR



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Limpet Mines

BPM
(HE)

Diameter of body: 225mm
Height: 100mm
Note: Uses the VZD-1M fuze. This mine also has an integral anti-removal mechanism!
Country of origin: russia

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Signal Mines

Signal mines are used to alert the presence of enemy forces. Although they are not specifically designed to wound or kill, they are pyrotechnic devices that can still cause burn injuries.

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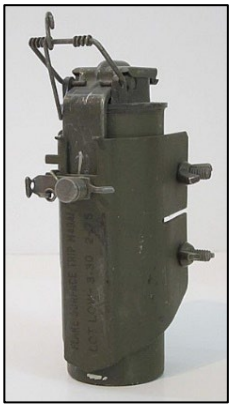
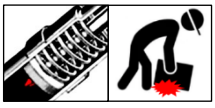
Signal Mines



M49A1
(illumination)

Diameter: 38mm
Height: 119mm
Note: Tripwire with pull or tension-release action.
Country of origin: USA

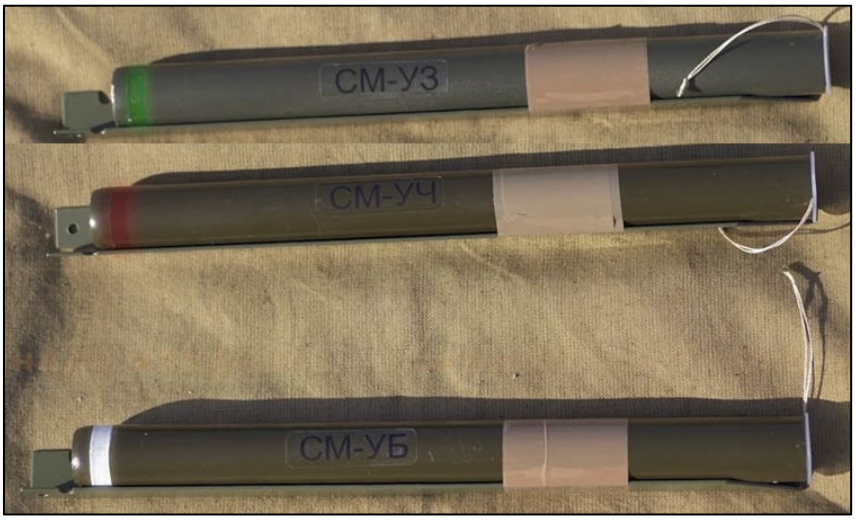


SM
(signal)

Diameter: 25mm
Length: 278mm
Note: Used with the MUV-series fuzes. White, green and red-colored models are available.
Country of origin: russia, Ukraine

SM-U (SM-UCh, SM-UZ, SM-UB)
(signal)

Diameter: 25mm
Length of body: 280mm
Note: White, green and red-colored models are available.
Country of origin: Ukraine



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Signal Mines

MSK-40
(signal/illumination)

Diameter: 40mm
Length of body: 350mm
Note: Used with the MUV-series fuzes. As well as emitting a loud noise, each mine fires a combination of colored signal and illumination stars.
Country of origin: russia

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Mortar (Projectiles)

Mortar projectiles are gun-launched, indirect-fire ammunition that are typically unguided. The majority of them have a “teardrop” shaped body with multiple gas check bands around the center. Mortar projectiles are also characterized by tailfin assemblies at their base that contain rings or bags of propellant.

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Mortars, 60mm

60mm O-LM60
(HE)
Length: **INFORMATION NEEDED**
Note: Uses the ZGM fuze.
Country of origin:
Poland

60mm J-M49A2
(HE-frag)
Length with fuze: 244mm
Note: Uses the US M525-series Fuzes.
Country of origin:
USA/Japan

60mm HE60 MA
(HE-Frag)
Length with AF621 fuze: 314mm
Length without fuze: 254mm
Country of origin: Bulgaria

60mm HE60
(HE-Frag)
Length with O-4M or O-4N fuze: 310mm
Length without fuze:
INFORMATION NEEDED
Country of origin: Bulgaria

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Mortars, 60mm

60mm Iranian Mortar
(HE)
Length with AZ111-A2 fuze: 265mm
Country of origin: Iran

60mm UB60
(fragmentation)
Length with UT M68P1 fuze: 285mm
Country of origin: Ukraine

60mm M768A1
(HE)
Length with M783 fuze: 376.9mm
Country of origin: USA

60mm M73
(HE)
Length with UT M68P1 fuze: 286mm
Country of origin: Serbia

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Mortars, 60mm

60mm "1963年式" Type 1963
(fragmentation)
Length with 迫-1甲 fuze:~237mm
Length without fuze: ~200mm
Country of origin: China

60mm North Korean Mortar
(model unknown)
(fragmentation)
Length with fuze:
INFORMATION NEEDED
Length without fuze:
INFORMATION NEEDED
Country of origin: North Korea

60mm HE
(HE-Frag)
Length with M6 fuze: 310mm
Length without fuze: 255mm
Country of origin: Bulgaria

60mm GE M/972
(HE-frag)
Length without fuze: **INFORMATION NEEDED**
Length with DM 111 A2 fuze: **INFORMATION NEEDED**
Country of origin: Portugal

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Mortars, 60mm

60mm M888
(HE-frag)
Length with M935 fuze: 374mm
Length without fuze: 311mm
Country of origin: USA

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Mortars, 81mm

81mm M889A2
(HE-frag)
Length with M783 Fuze:
INFORMATION NEEDED
Length without fuze:
INFORMATION NEEDED
Country of origin: USA

81mm HE 81LDMA
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Country of origin: Bulgaria

81mm M/49
(fragmentation)
Length without fuze: 346mm
Length with M/49/62 fuze:
INFORMATION NEEDED
Country of origin: Denmark

81mm M879A1
(practice)
Length with M751 fuze: 498mm
Length without fuze:
INFORMATION NEEDED
Note: These mortars contain a pyrotechnic spotting charge.
Country of origin: USA

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Mortars, 82mm

82mm O-832
(fragmentation)
Length without fuze: 277mm
Note: Used with several different fuzes.
Country of origin: USSR

82mm O-832DU
(fragmentation)
Length without fuze: 278mm
Note: Used with several different fuzes.
Country of origin: russia

82mm O-832-DU
(fragmentation)
Length without fuze: 278mm
Country of origin: **INFORMATION NEEDED**

82mm O-832-77
(fragmentation)
Length without fuze: 304.8mm
Country of origin: Romania

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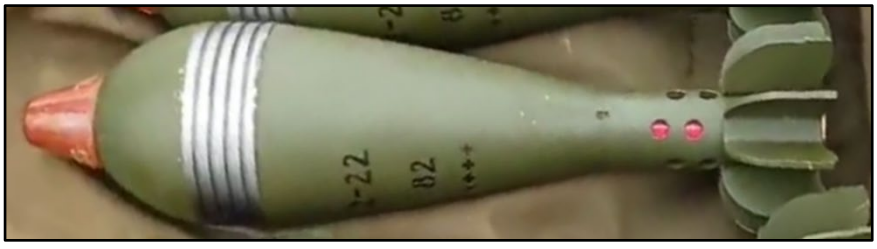
Mortars, 82mm

82mm HE 82
(HE-Frag)
Length with fuze: 332.6mm
Note: Uses the O-4M and O-4N fuzes.
Country of origin: Bulgaria

82mm HE 82 M
(HE-Frag)
Length with fuze:
AF611: 345mm
AF67: 355mm
Country of origin: Bulgaria



82-мм Ukrainian-produced Mortar
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Note: Used with several different fuzes.
Country of origin: Ukraine

82mm 3VO35E
(fragmentation)
Length with fuze: **INFORMATION NEEDED**
Country of origin: russia

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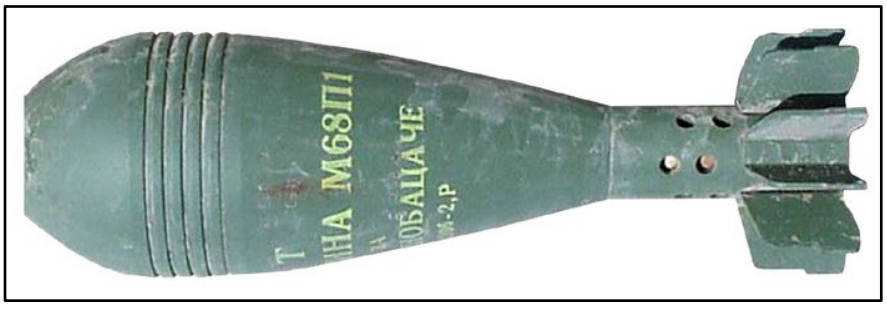
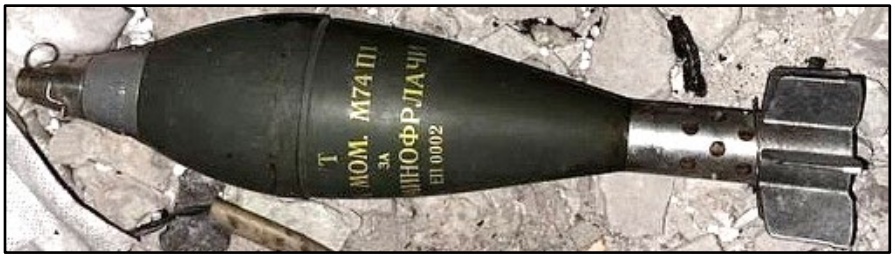
Mortars, 82mm

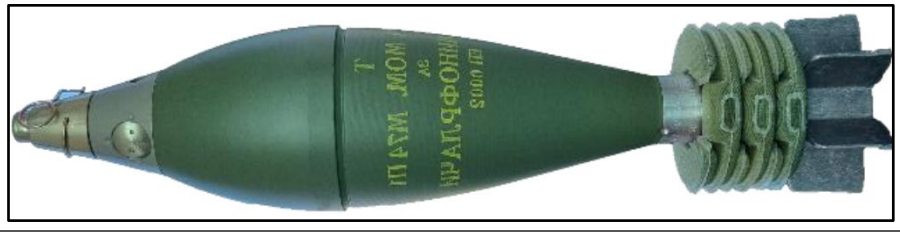
82mm S-832S
(illumination)
Length without fuze: 293mm
Length with T-1 fuze: 353mm
Country of origin: russia

82mm D-832DU
(smoke / white phosphorus)
Length without fuze: 276mm
Country of origin: russia



82mm M68P1
(HE-frag)
Length without fuze: 295mm
Length with UT M68P1 fuze: 340mm
Country of origin: Former Yugoslavia





82mm M74P1
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with UT M68P1 fuze: 394mm
Country of origin: Former Yugoslavia

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Mortars, 82mm

82mm M67
(illumination)
Length without fuze: 344mm
Length with M67 fuze: 410mm
Country of origin: Serbia

82mm O-832-MC
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with fuze: 660mm
Country of origin: Romania

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Mortars, 120mm

120mm D-5
(smoke / white phosphorus)
Length without fuze: 603mm
Country of origin: USSR

120mm OF5
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with AR-27 fuze: 680mm
Country of origin: USSR

120mm S-843
(illumination)
Length without fuze: 665mm
Length with T-1 fuze: 735.6mm
Country of origin: USSR

120mm 3S9
(illumination)
Length without fuze: 663mm
Length with T-1 fuze: 733.6mm
Country of origin: USSR

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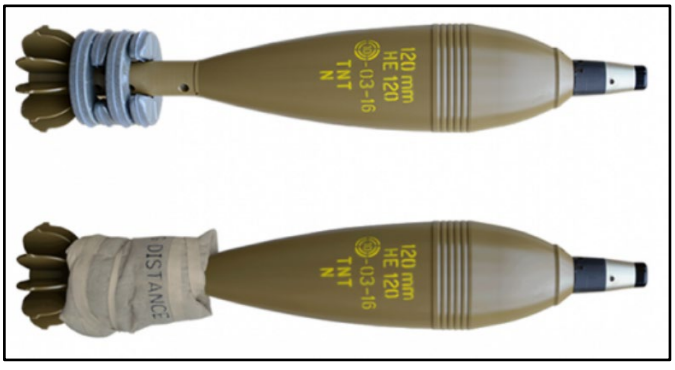
Mortars, 120mm

120mm OF-NMR
(rocket-assisted HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with M-12 fuze: 800mm
Country of origin: Poland

120mm HE120
(fragmentation)
Length without fuze: 602.5mm
Length with AF69 fuze: 674mm
Country of origin: Bulgaria



120mm OF-843B
(HE-frag)
Length without fuze: 603mm
Length with M-12 fuze: 674mm
Country of origin: USSR

120mm HE-843B (HE-frag)
Length without fuze: 600mm
Length with M-12 Fuze: 674mm
Country of origin: Sudan, Bulgaria

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Mortars, 120mm

120mm OF34
(HE-frag)
Length with M-12 Fuze: 733.5mm
Country of origin: russia

120mm OF36 (HE-frag)
Length with M-12 Fuze: 733.5mm
Country of origin: russia

120mm M/50 (fragmentation)
Length without fuze: 555mm
Length with M/49/62 fuze: 618mm
Country of origin: Denmark

120mm M933A1
(HE-frag)
Length without fuze: 643mm
Note: Uses the M783 fuze.
Country of origin: USA

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Mortars, 120mm

120mm M1101
(HE-frag)
Length without fuze: **INFORMATION NEEDED**
Length with M767A1 fuze: 570mm

Note: This mortar has a pre-scored rotating band.
Country of origin: USA

120mm M48
(HE-frag)
Length with AZ111-A2 Fuze: 580mm
Country of origin: Iran

120mm 3-Z-2
(incendiary)
Length without fuze:
INFORMATION NEEDED
Length with T-1 fuze: 716.6mm
Country of origin: USSR

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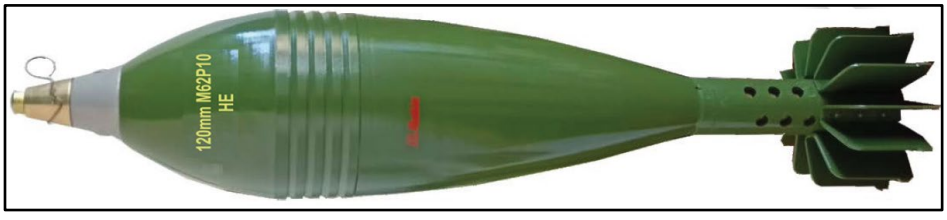
Mortars, 120mm

120mm M44A2
(fragmentation)
Length with V19PA2 Fuze: 676mm
Country of origin: Pakistan

120mm JVA 1571
(HE-frag)
Length without fuze: **INFORMATION NEEDED**
Length with JVA 7575 fuze: 702mm
Country of origin: Finland



120mm M62P10
(HE-frag)
Length with UT M68P1 fuze: 593mm
Country of origin: Serbia

120mm M530A1
(HE-frag)
Length with M8100 fuze: 770mm
Country of origin: Belgium

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Mortars, 120mm

120mm M971
(HEAT submunitions)
Length without fuze: 767mm
Length with fuze: 827mm
Tailspan: 270mm
Country of origin: Israel

M87

120mm NT120
(HE-frag)
Length with AU-29P1 fuze: 808mm

Note: May use either the M8100 or AU-29P1 fuze.
Country of origin: Spain

120mm M930
(illumination)
Length with M776 Fuze: 703mm
Country of origin: USA

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Mortars, 140mm

140mm North Korean Mortar (model unknown)
(HE-frag)

Length with fuze: **INFORMATION NEEDED**
Length without fuze: **INFORMATION NEEDED**
Country of origin: North Korea

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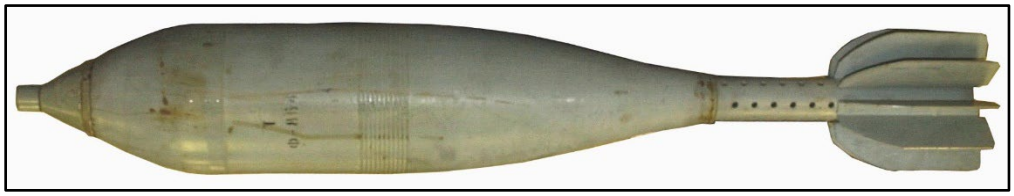
Mortars, 240mm



240mm F-864
(HE-frag)
Length with fuze: 1560mm
Country of origin: russia

240mm 3VF2/3F2
(HE)
Unfired length: 2678mm
Fired length: 2348mm
Note: Uses the 3F3 HE warhead and M-17 fuze.
Country of origin: russia

240mm 3F5 “Daredevil”
(HE)
Length with fuze: 1635mm
Length without fuze: **INFORMATION NEEDED**
Country of origin: russia

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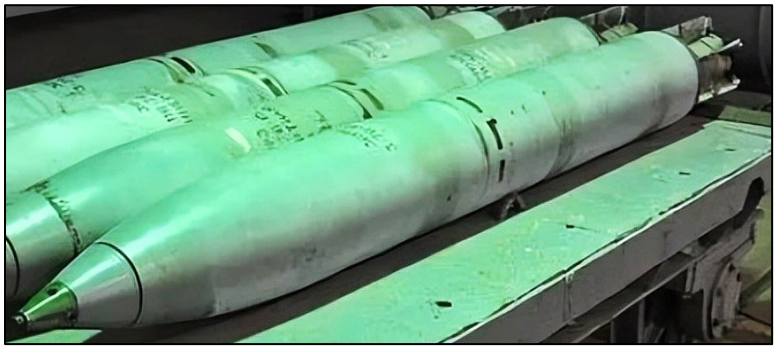
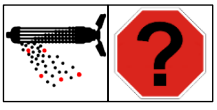
Mortars, 240mm



240mm 3VO11/3O8 “Seal”
(HE-frag submunitions)
Unfired length: **INFORMATION NEEDED**
Fired length: **INFORMATION NEEDED**
Note: Uses the 3O9 warhead.
Country of origin: russia



O-10 / 3-O-10

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Small Arms Ammunition

Within this guide, small arms ammunition is defined as cartridges with projectiles of 20mm caliber and below in size. Note that different countries may use other rules for which sizes fall within this category,

There are hundreds, possibly thousands of different small arms ammunition currently found in Ukraine - only those models that contain high explosives and/or fuzes are included in this guide. This is due to the increased hazards that they have compared to normal small arms ammunition.

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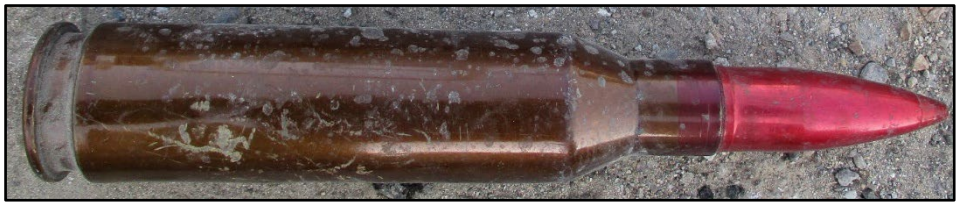
Small Arms Ammunition, 12.7-14.5mm

12.7mm MDZ
(HE-incendiary)
Length of bullet: 66mm
Cartridge length: 108mm
Country of origin:
USSR



14.5mm MDZ-M
(HE-incendiary)
Length of bullet: 70.65mm
Cartridge length: 155mm
Country of origin:
USSR

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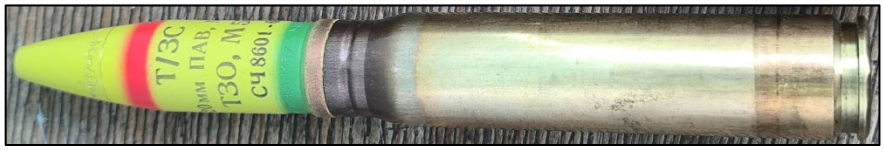
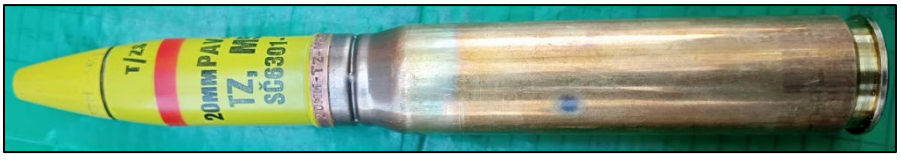
Small Arms Ammunition, 20mm



20mm M57 TZO
(HEI-T)
Projectile length: 92mm
Total length: 184mm
Country of origin: Former Yugoslavia



20mm M57 TZ
(HEI)
Projectile length: 92mm
Total length: 184mm
Country of origin: Former Yugoslavia, Serbia

20mm HIS AP-T
(AP-T)
Projectile length: **INFORMATION NEEDED**
Total length: 184mm
Country of origin: Serbia

20mm M60 PZ
(API)
Projectile length: 81mm
Total length: 183mm
Note: May be labeled as “П3” or ”ПАНЦ. ЗАП.”.
Country of origin: Former Yugoslavia

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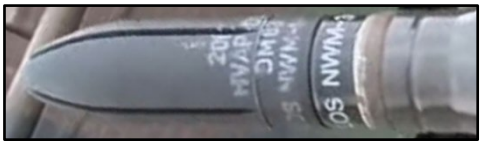
Small Arms Ammunition, 20mm



20mm DM63
(HVAPDS-T)
Projectile length: **INFORMATION NEEDED**
Total length: 213mm
Country of origin: Germany

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Projectiles

In very general terms, projectiles are ammunition fired from guns that are initially propelled by a propellant charge which may be fixed, semi-fixed, or separate. They may also be rocket-assisted after they are initially fired, or have the ability to guide themselves in some way. The weapons they are fired from include artillery guns, cannons, autocannons, howitzers, tank guns, grenade launchers, and so on.

The majority of projectiles and their cartridges will be found in this section, with some exceptions:

- Due to their distinctive shape and design, mortar projectiles are grouped separately in the Mortar (Projectiles) section.
- Projectiles with a caliber of 20mm or below are found in the Small Arms Ammunition section.
- Projectiles used in shoulder-fired, recoilless rifles are located in the RPG section.

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Projectiles, 23mm

23mm BZ (API) and BZT (API-T)
Projectile length: 108.2mm
Cartridge length: 234.95mm
Country of origin: USSR

23mm OFZ (HEI)
Projectile length: 109mm
Cartridge length: 204mm
Country of origin: USSR

23mm OFZT (HEI-T)
Projectile length: 109mm
Cartridge length: 236mm
Country of origin: USSR

23mm Cartridge for the R-23 "Rikhter" Gun (HE-frag-incendiary)
Projectile length: 109mm
Cartridge length: 260mm
Cartridge diameter: 27mm
Country of origin: russia

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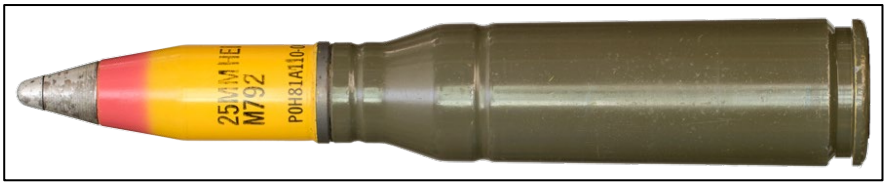
Projectiles, 25mm



25mm M792
(HEI-T)
Projectile length: 117mm
Total length: 219mm
Country of origin: USA

25mm M791
(APDS-T)
Projectile length: 86mm
Total length: 223mm
Country of origin: USA

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Projectiles, 30mm

30mm VOG-17M
(fragmentation)
Projectile length: 113mm
Total length: 131.8mm
Country of origin: USSR

30mm VOG-30D (7P36D)
(fragmentation)
Projectile length: 113mm
Total length: 132mm
Note: May use either the VMG-M or VMG-M-1 fuze.
Country of origin: Russia

30mm RHV-HEF
(HE-frag)
Projectile length: **INFORMATION NEEDED**
Total length: 133mm
Note: Uses the AF35 fuze.
Country of origin: Bulgaria

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Projectiles, 30mm

30mm RHV-TP
(practice)
Projectile length: **INFORMATION NEEDED**
Total length: 133mm
Note: The fuze and projectile are inert.
Country of origin: Bulgaria

30mm VUS-17
(red smoke)
Projectile length: 112mm
Total length: **INFORMATION NEEDED**
Note: Uses the VMG-M fuze
Country of origin: russia

30mm M93 P1
(HE-frag)
Projectile length: **INFORMATION NEEDED**
Total length: 132mm
Country of origin: Serbia

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Projectiles, 30mm

30mm BZT
(API-T)

Projectile length: ~144mm
Cartridge length: 266mm
Country of origin:
USSR

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Projectiles, 35mm

35mm DM31
(HEI-T)
Projectile length: 228mm
Total length: 387mm
Country of origin: Germany

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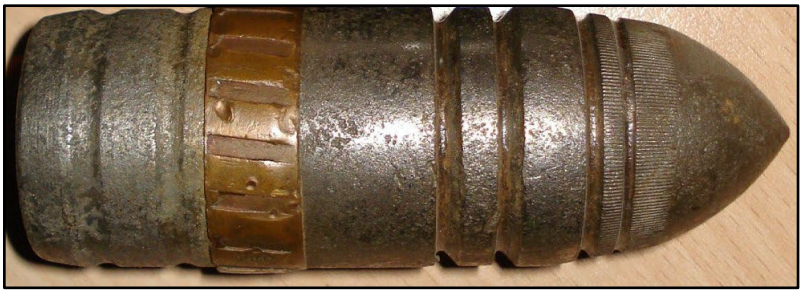
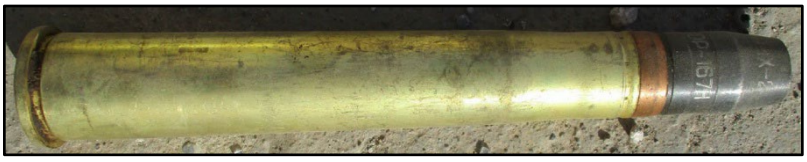
Projectiles, 37mm



37mm BZT
(API-T)
Projectile length: 155.7mm
Cartridge length: 384mm
Country of origin: USSR



37mm OR-167 and OR-167N
(fragmentation with tracer)
Projectile length: 173.99mm
Cartridge length: 382mm
Country of origin: USSR

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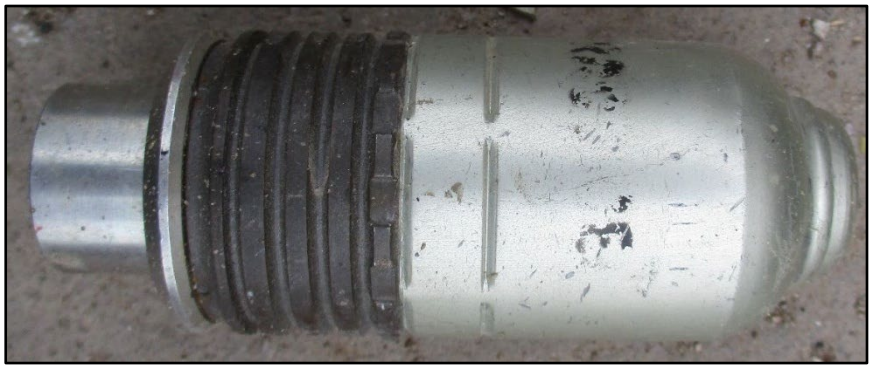
Projectiles, 40mm



40mm VOG-25
(fragmentation)
Length: 120.37mm
Country of origin:
USSR/Bulgaria

40mm VOG-25P
(bounding fragmentation)
Length: 120mm
Note: Uses the VMG-P fuze.
Country of origin:
USSR/Bulgaria

40mm VOG-25PM (7P45)
(bounding fragmentation)
Length: 107mm
Country of origin: russia

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Projectiles, 40mm

40mm VOG-25M
(fragmentation)
Length: 107mm
Country of origin: Russia

40mm VUS-25 (7P44U)
(red smoke)
Length: 107mm
Note: Uses the VMG-M fuze.
Country of origin: Russia

40mm RLV-HEFJ
(bounding fragmentation)
Length: 105.8mm
Note: Uses the AF43 fuze.
Country of origin: Bulgaria

40mm RLV-HEF
(fragmentation)

Length: 102.6mm
Note: uses the AF41 fuze.
Country of origin: Bulgaria

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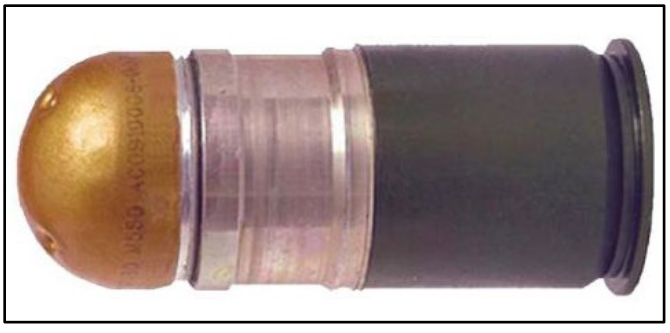
Projectiles, 40mm

40mm M430 and M430A1
(HEAT, fragmentation)
Length with fuze: 79.8mm
Length with fuze and Cartridge: 112.1мм

Note: Used with M549 and M549A1 fuzes
Country of origin: USA

40mm M433
(HEAT, fragmentation)
Length with fuze: 82mm

Length with fuze and cartridge: 102.9mm
Note: Used with M550 fuze.
Country of origin: USA



40mm DM121
(HE-frag)
Length: 53mm
Length with fuze and cartridge: 112mm
Note: Uses AZ-Z DM451 fuze.
Country of origin: Germany

40mm M6P
(HE-frag)
Length: **INFORMATION NEEDED**
Length with fuze and cartridge: 98.9mm
Note: Used with PSK-7A fuze.
Country of origin: Bosnia and Herzegovina

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Projectiles, 40mm

40mm GLV-HEF-1
(RLV-HEF-1 Cartridge)
(HE-frag)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: 102.5mm
Note: Uses A411 fuze.
Country of origin: Bulgaria

40mm M713
(red smoke)
Length of projectile: 81mm
Length with cartridge: 99.3mm
Country of origin: USA

40mm M715
(green smoke)
Length of projectile: 81mm
Length with cartridge: 99.3mm
Country of origin: USA

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Projectiles, 40mm

40mm DM42
(HEAT, fragmentation)
Length: 53mm
Length with fuze and cartridge: 112mm

Note: Uses AZ-Z DM451 fuze.
Country of origin: Germany

40mm DM72
(HEAT, fragmentation)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: **INFORMATION NEEDED**

Note: Uses AZ-Z DM451 fuze.
Country of origin: Germany

40mm HE 01
(HE-frag)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: 106mm
Note: Uses the URJ-004 fuze.
Country of origin:
Croatia

40mm HEDP 01
(HEAT, fragmentation)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: 106mm
Note: Uses the URJ-004 fuze.
Country of origin:
Croatia

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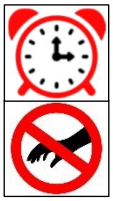
Projectiles, 40mm



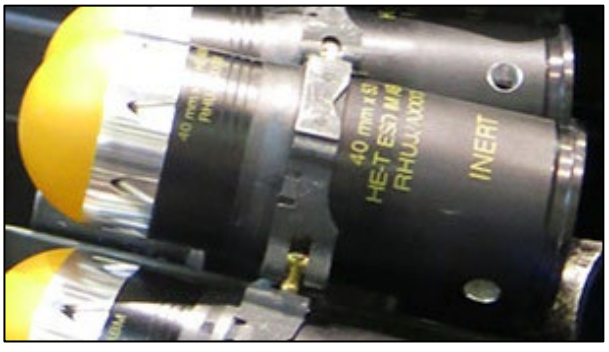
40mm HEDP14
(HEAT)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: **INFORMATION NEEDED**

Note: Uses the DM941 fuze.
Country of origin: Germany

40mm AR383
(HE-frag)
Length of projectile: **INFORMATION NEEDED**
Length with fuze and cartridge: 112mm
Note: There are two variants; one has a metal nose cap and the other has a plastic nose cap.
Country of origin: Bulgaria

40mm HE ABM
(HE-frag)

Length of projectile: **INFORMATION NEEDED**
Length with cartridge: 112mm.
Country of origin: Germany



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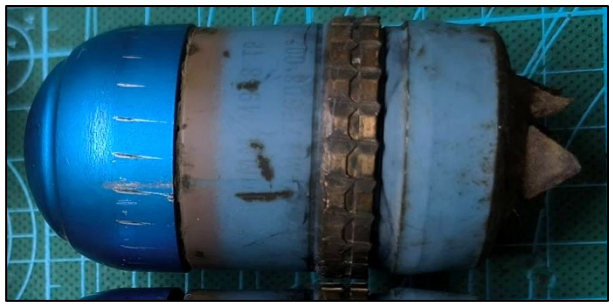
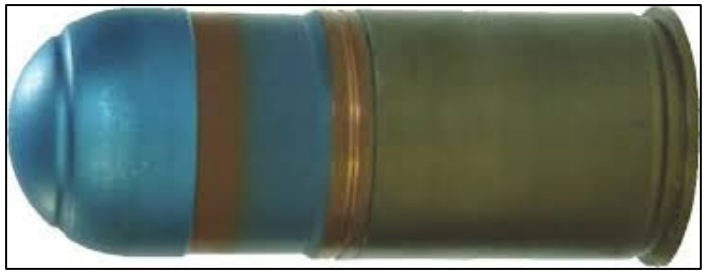
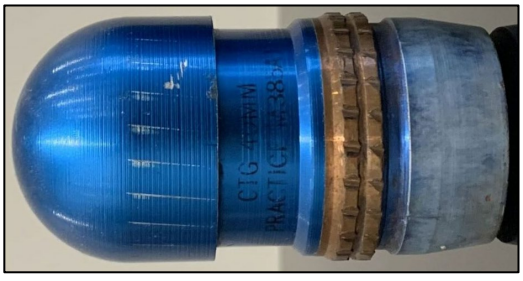
Projectiles, 40mm

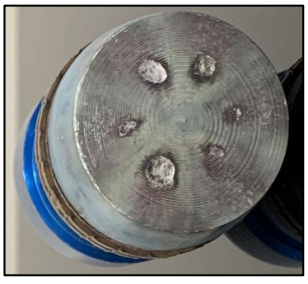


40mm M918
(practice)
Length of projectile: 73mm
Length with cartridge: 112mm



Note: These projectiles contain a spotting charge which ruptures the rear of the projectile upon impact and produces a bright flash, smoke, and noise.
Country of origin: USA





40mm M385A1
(practice)
Length of projectile: 81mm
Length with cartridge: 112mm
Note: The fuze and projectile are inert.
Country of origin: USA

40mm M781
(practice)
Length of projectile: 73mm
Length with cartridge: 103mm

Note: There is no fuze, this projectile contains an orange dye powder which disperses on impact.
Country of origin: USA

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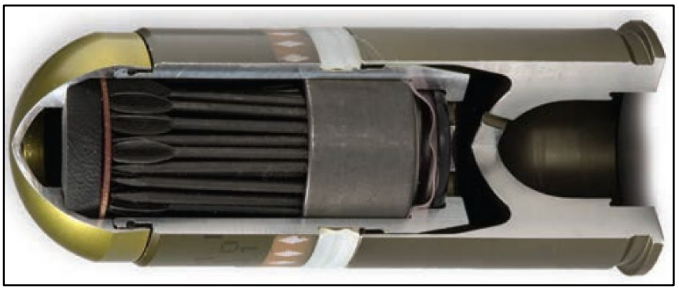
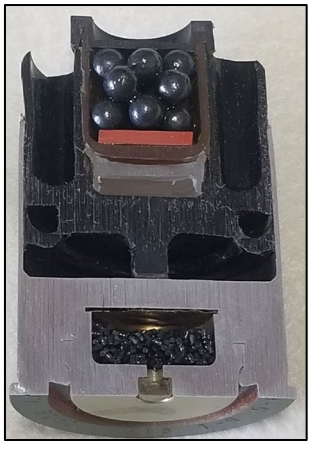
Projectiles, 40mm

40mm M1001
(flechette)
Unfired length: 111.5mm
Country of origin: USA



40mm XM576E1
(shrapnel)
Unfired length: 67.2mm
Country of origin: USA



40mm VG-40TB
(thermobaric)
Length: 122.5mm
Country of origin: russia

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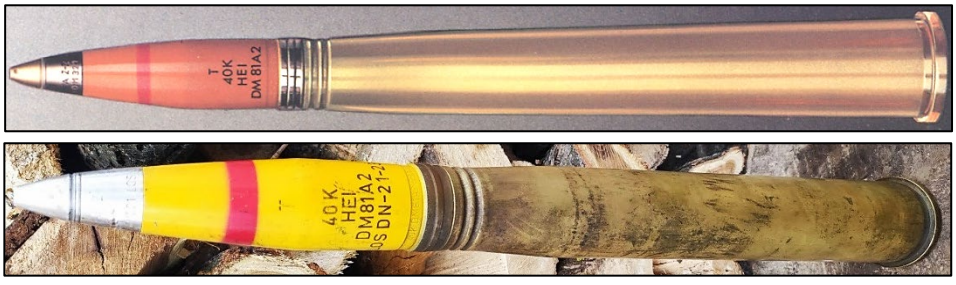
Projectiles, 40mm

40mm VG-40MD
(smoke / incendiary)
Length without fuze: 94mm
Length with VMG-K fuze: 121mm
Country of origin: russia



40mm DM81A2
(HEI)
Fired length: **INFORMATION NEEDED**
Length with cartridge: 534mm
Note: Uses the DM321 fuze.
Country of origin: Germany

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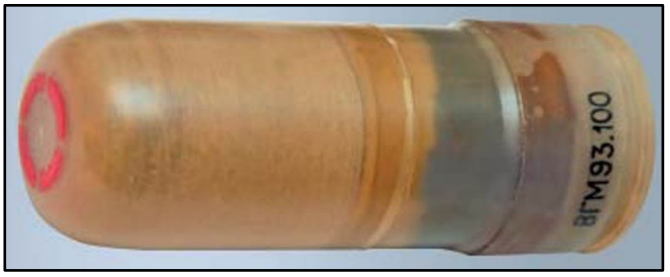
Projectiles, 43mm



43mm VGM93.100
(thermobaric)
Length: 120mm
Note: Uses the U-535 fuze.
Country of origin: russia

43mm VGM93.200
(CS gas)
Length: 120mm
Country of origin: russia

43mm VGM93.700
(practice)
Length: 120mm
Note: The projectile is inert.
Country of origin: russia

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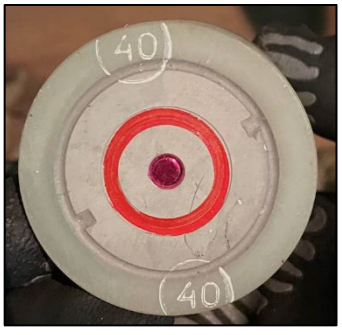
Projectiles, 43mm

43mm VGM93.900
(fragmentation)
Length: 120mm
Country of origin: russia



43mm MO.1.16.02
(thermobaric)
Length: 120mm
Note: Uses the U-535 fuze.
Country of origin: russia

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Projectiles, 57mm

57mm OR-281
(fragmentation with tracer)
Length with fuze: 259.21mm
Length without fuze: 210.7mm
Country of origin: USSR

57mm OR-281U
(fragmentation with tracer)
Length with fuze: 261.37mm
Length without fuze: 214.63mm
Country of origin: USSR

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Projectiles, 73mm

73mm OG-9, OG-9M, OG-15V
(fragmentation)
Length with GO-2 fuze: 724.54mm
Length without fuze: 649.10mm
Country of origin: USSR, Bulgaria

73mm RHEF-9MA / GHEF-9MA
(HE-frag)
Unfired length with AF71 fuze: 1065mm
Fired length with AF71 fuze: 724mm
Note: The complete round is called the RHEF-9MA, the projectile itself is the GHEF-9MA.
Country of origin: Bulgaria

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Projectiles, 73mm

73mm Romanian OG-9
(fragmentation)
Length without fuze: 385mm
Country of origin: Romania

73mm PG-9, PG-9S, and PG-15
(rocket-assisted, HEAT)
Length of PG-9: 787.4mm
Length of PG-9S: 773.44mm
Country of origin: USSR, Bulgaria

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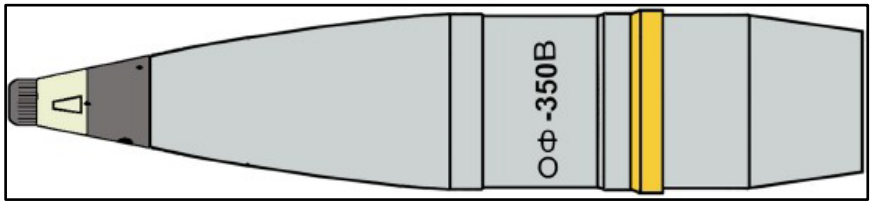
Projectiles, 76-82mm

76mm BZR-350B
(API-HE-T)
Length with fuze: 303.76mm
Length without fuze: 276.43mm
Note: Uses the MD-5 fuze.
Country of origin: USSR



76mm OF-350V
(HE-frag)
Length with fuze: 366mm
Length without fuze: 307mm
Note: Uses KTM-1, RGM-2, V-429 fuzes.
Country of origin: USSR

76mm BK-354M
(HEAT)
Length with fuze: 545mm
Length without fuze: 466mm
Country of origin: USSR

82mm BK-881 and BK-881M
(HEAT)

Length with fuze: 683.51mm
Length without fuze: 608.83mm
Country of origin: USSR

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Projectiles, 85mm

85mm BR-365P (HVAP-T)
Length: 256.46mm
Country of origin: USSR

85mm PBR-367
(AP-T practice)
Length: 266.7mm
Note: Training version of the BR-367.
Country of origin: USSR

85mm BR-365
(APHE-T)
Length with fuze: 291.27mm
Length without fuze: 266.12mm
Note: Uses the MD-8 fuze.
Country of origin: USSR

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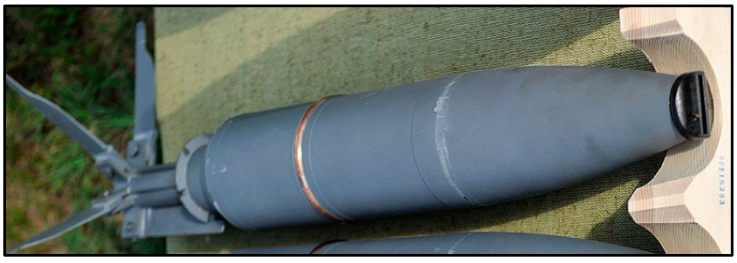
Projectiles, 100mm

100mm OF32
(HE-frag)
Length with fuze: 430mm
Length with cartridge: 530mm
Note: Uses the V-429 fuze.
Country of origin: USSR

100mm BK16M
(HEAT)
Length of projectile with fuze: 581mm
Length of projectile and fuze with cartridge: 1090mm
Country of origin: russia

100mm OF35
(HE-frag)
Length with cartridge: 1284mm
Country of origin: Ukraine, russia



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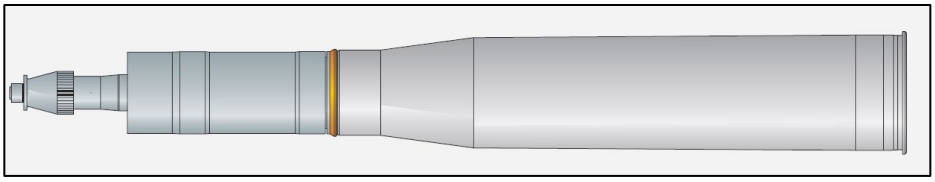
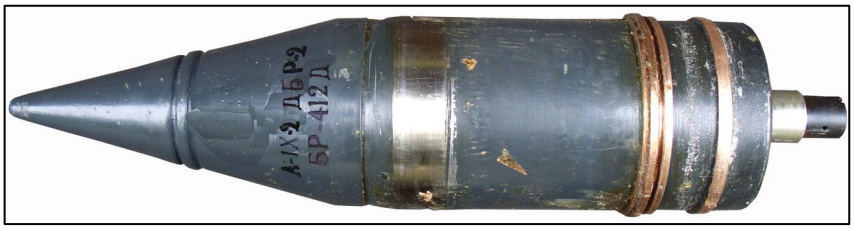
Projectiles, 100mm



100mm BK17M
(HEAT)
Length of projectile:
INFORMATION NEEDED
Unfired length: 1093mm
Note: Uses the V-15 fuze.
Country of origin:
russia

100mm BR-412
(APHE-T)
Length with fuze: 362mm
Length without fuze: 326mm
Unfired length: 910mm
Note: Uses the MD-8 fuze.
Country of origin: russia



100mm BR-412D
(APHE-T)
Length with DBR-2 fuze: 448mm
Length without fuze: 394mm
Unfired length: 1300mm
Note: May use either the DBR-2 or MD-8 fuze.
Country of origin: russia

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Projectiles, 105mm

105mm M927
(rocket-assisted, HE-frag)

Length of projectile: 539mm
Length of projectile with cartridge: 821mm
Note: Uses the M739A1 Fuze.
Country of origin: USA

105mm M1
(HE-frag)

Length of projectile: 404mm
Length of projectile with cartridge: 725mm
Note: Uses the M739A1 fuze.
Country of origin: USA

105mm M760
(HE-frag)

Length of projectile: 399mm
Length of projectile with cartridge: 726mm
Note: Uses the M739A1 fuze.
Country of origin: USA

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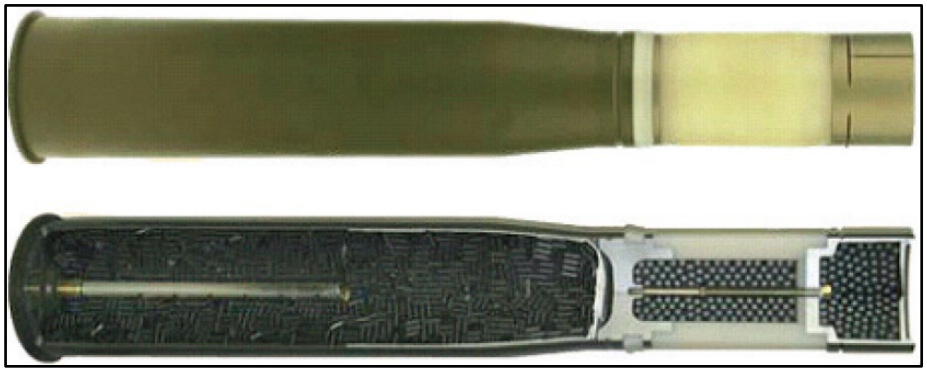
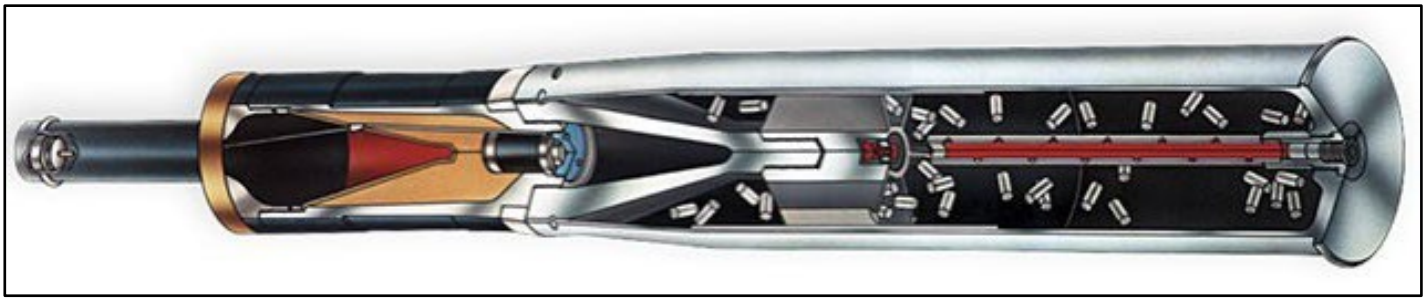
Projectiles, 105mm



105mm M1040
(shrapnel)
Length with cartridge: 873mm
Country of origin: USA

105mm M456A2
(HEAT)
Length of projectile: 662mm
Length with cartridge: 1000mm
Country of origin:
USA



105mm M67
(HEAT)
Fired length: 509mm
Length with cartridge: 789mm
Note: Uses the M91 fuze.
Country of origin: USA

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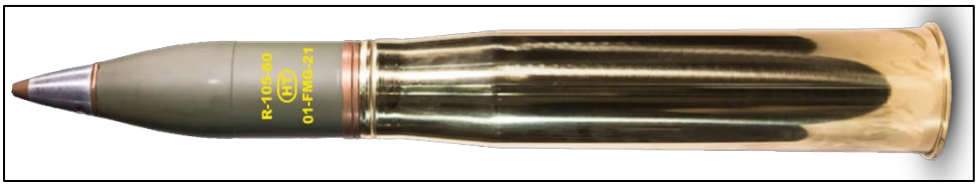
Projectiles, 105mm



105mm HE R-105-60
(HE-frag)
Length of projectile: 443.5mm
Length with cartridge: 990mm
Note: Uses the KZ-984 or M739A1 fuzes.
Country of origin: Slovakia

105mm PECA T C512
(APFSDS)
Length of projectile: 647mm
Length with cartridge: 996mm
Country of origin: Slovakia

105mm OFL F3
(APFSDS)
Length of projectile:
INFORMATION NEEDED
Length with cartridge: 884mm
Country of origin: France

105mm M393A3
(HEP/HESH)
Length of projectile: 490mm
Length with cartridge: 940mm
Country of origin: USA

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Projectiles, 105mm

105mm OCC F3B
(HEAT)
Length of projectile: 520mm
Length with cartridge: 842mm
Country of origin: France

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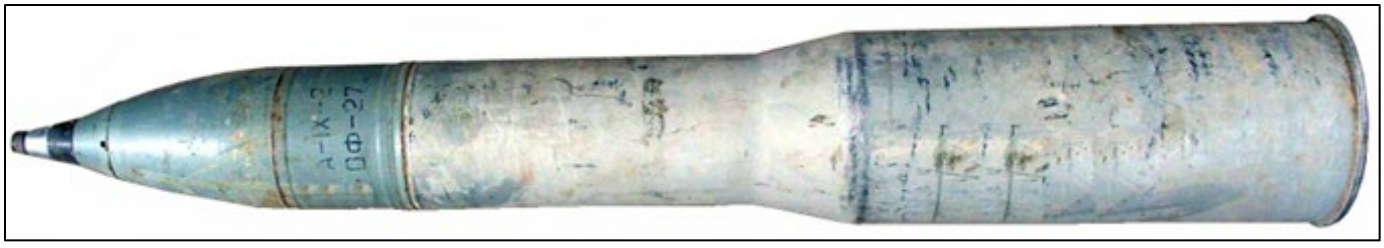
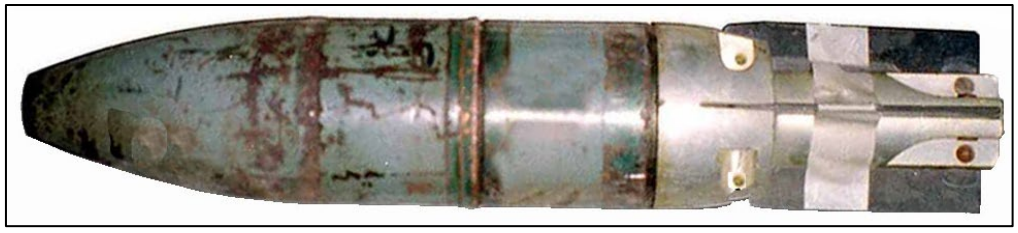
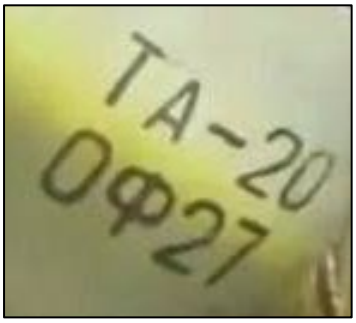
Projectiles, 115mm

115mm Projectile
(APFSDS-T)
Length: 515mm
Note: Contains a tracer element.
Country of origin: USSR

115mm BK-4M
(HEAT)
Length without fuze: 542mm
Length with fuze: 634mm
Length with fuze and cartridge: 1052mm
Country of origin: USSR







115mm OF27
(HE-frag)
Length without fuze: 614mm
Length with V-429E fuze: 649mm
Length with fuze and cartridge: 1065m
Country of origin: russia

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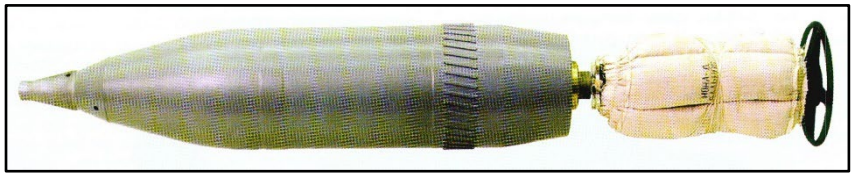
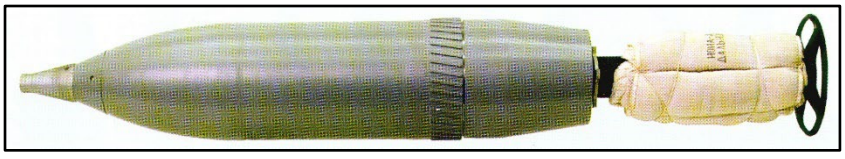
Projectiles, 120mm

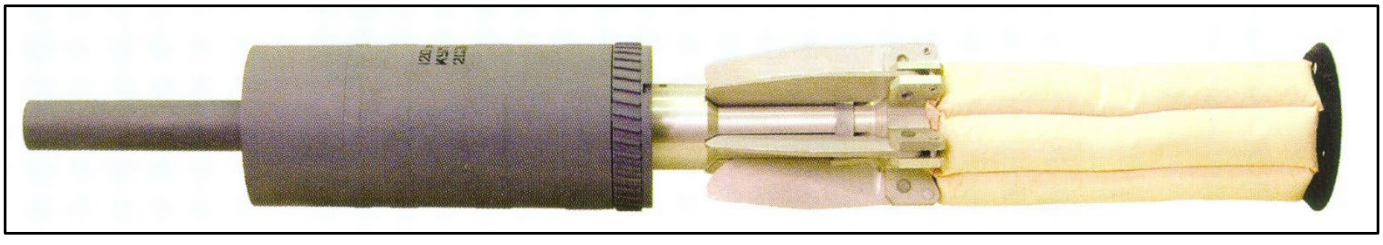


120mm 3OF49
(HE-frag)
Length of projectile: 545mm
Length with fuze: 620mm
Unfired length: 828mm
Note: Uses the 3V35 fuze. This projectile has a pre-scored rotating band.
Country of origin: USSR



120mm 3OF50
(rocket-assisted, HE-frag)
Length of projectile: 550mm
Length with fuze: 625mm
Unfired length: 835mm
Note: Uses the 3V35 fuze. This projectile has a pre-scored rotating band.
Country of origin: USSR

120mm 3BK19
(HEAT)
Length of projectile: 665mm
Unfired length: 960mm
Note: This projectile has a pre-scored rotating band.
Country of origin: USSR



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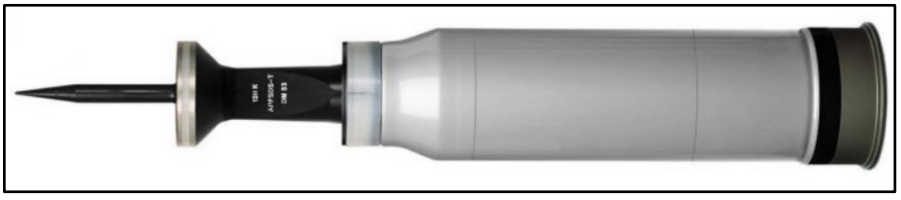
Projectiles, 120mm

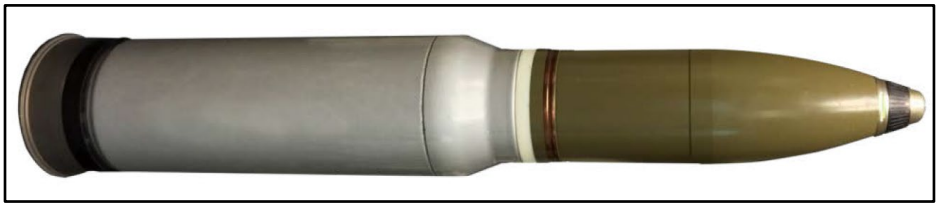
120mm OF74
(thermobaric, fragmentation)
Length of projectile: **INFORMATION NEEDED**
Note: This projectile has a pre-scored rotating band.
Country of origin: russia

120mm DM33A1
(APFSDS)
Length of projectile: ~640mm
Length with cartridge: 978mm
Country of origin: Germany



120mm DM53/DM53A1
(APFSDS)
Length of projectile: 745mm
Length with cartridge: **INFORMATION NEEDED**
Country of origin: Germany

120mm DM63A1
(APFSDS)
Length of projectile: 745mm
Length with cartridge: **INFORMATION NEEDED**
Country of origin: Germany



120mm IM HE-T
(HE)
Length of projectile: **INFORMATION NEEDED**
Length with cartridge: 943mm
Country of origin: Germany

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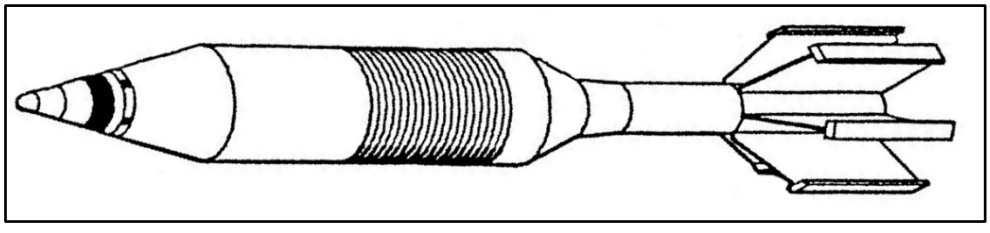
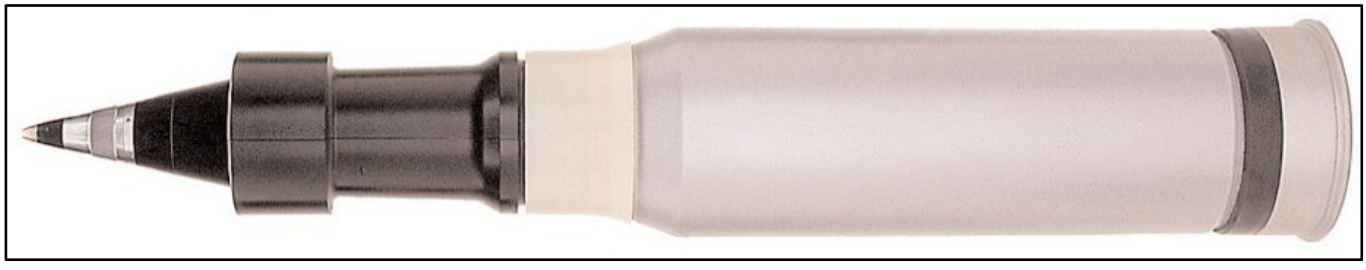
Projectiles, 120mm

120mm DM11
(HE-frag)
Length of projectile: 570mm
Length with cartridge:
INFORMATION NEEDED
Country of origin: Germany

120mm M1028
(shrapnel)
Length of projectile: 317.5mm
Length with cartridge: 780mm
Country of origin: USA



120mm M830A1
(HEAT)
Length of projectile: 772mm
Length with cartridge: 984mm
Country of origin: USA



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Projectiles, 122mm

122mm Sh1
(flechette)
Length of projectile: 455mm
Note: Uses the DTM-75 fuze.
Country of origin: USSR

122mm S4Zh
(illumination)
Length of projectile: 470mm
Note: Uses the T-7 fuze.
Country of origin: USSR

122mm D4
(smoke / white phosphorus)
Length of projectile: 500mm
Note: Uses the RGM-2 fuze.
Country of origin: USSR

122mm OF56 and OF56-1
(HE-frag)
Length of projectile: 501mm
Note: Uses the RGM-2 fuze.
Country of origin: USSR

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Projectiles, 122mm

122mm OF24Zh
(HE-frag)
Length of projectile: 500mm
Country of origin: russia

122mm BK13
(HEAT)
Length of projectile: 637mm
Note: Uses the V-15 fuze.
Country of origin: russia

122mm A1 (A1Zh and A1ZhD)
(propaganda)
Length of projectile: 420mm
Note: Uses the T-7 fuze.
Country of origin: russia/Ukraine

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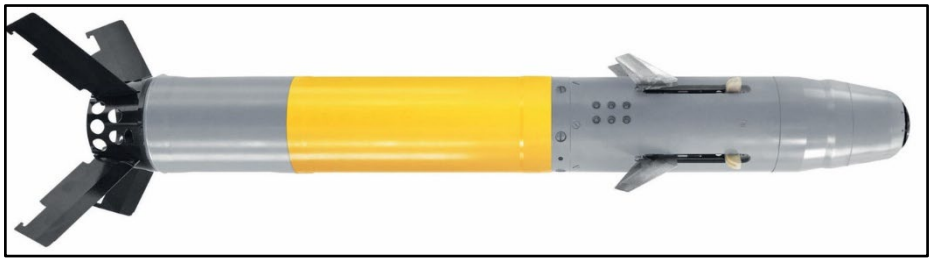
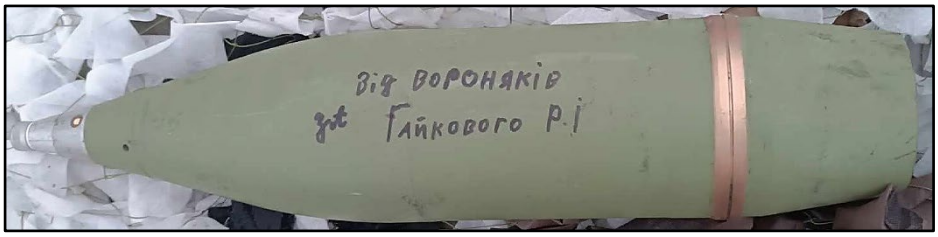
Projectiles, 122mm



122mm Kitolov-2M
(HE-frag)
Length of projectile: 1190mm
Country of origin: russia

122mm OF56IM-1P
(HE-frag)
Length of projectile:
INFORMATION NEEDED
Note: Uses the RGM-2 fuze.
Country of origin: russia



122mm 462A1
(HE-frag)
Length of projectile: 507mm
Length with UTIU M72B1 fuze: 565mm
Country of origin: Serbia

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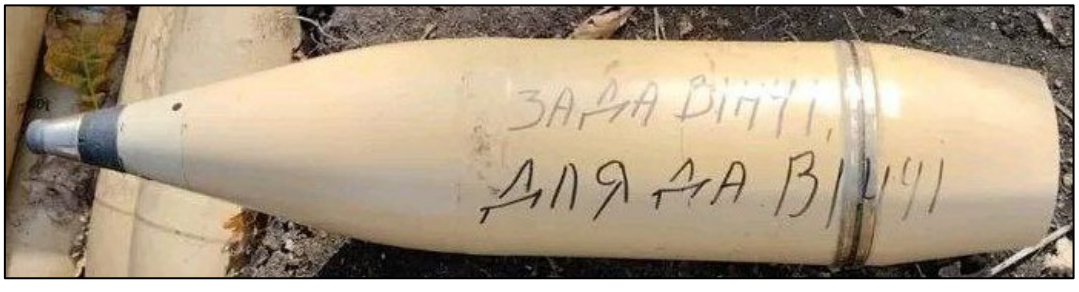
Projectiles, 122mm

122mm P1A1
(HE-frag)
Length of projectile:
INFORMATION NEEDED
Note: Uses the LIU-4 fuze.
Country of origin:
Pakistan

122mm Iranian Projectiles
(HE-frag)
Length with fuze: 560mm
Note: Uses the V-429E and M51A5 fuzes.
Country of origin: Iran



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Projectiles, 125mm

125mm BM15
(BM18 Cartridge)
(APFSDS)
Unfired length: **INFORMATION NEEDED**
Fired length: 547mm
Country of origin: russia

125mm BM22
(BM23 Cartridge)
(APFSDS)
Unfired length: 610mm
Fired length: **INFORMATION NEEDED**
Country of origin: USSR

125mm BM26-1
(BM27-1 Cartridge)
(APFSDS)
Unfired length: 610mm
Fired length: **INFORMATION NEEDED**
Country of origin: USSR

125mm BM42
(BM44 Cartridge)
(APFSDS)
Unfired length: 621mm
Fired length: 571mm
Country of origin: russia

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Projectiles, 125mm

125mm OF26
(HE-frag)
Length with V-429E fuze: 671mm
Length without fuze: 616mm
Country of origin: USSR

125mm M86
(HE-frag)
Length with UTIU M85 fuze: 676mm
Length without fuze: **INFORMATION NEEDED**
Country of origin: Serbia

125mm TK HE
(HE-frag)
Length with DRH-05 fuze: **INFORMATION NEEDED**
Length without fuze: 700mm
Country of origin: Pakistan

125mm HE 1A
(HE-frag)
Length with fuze: **INFORMATION NEEDED**
Length without fuze: **INFORMATION NEEDED**
Country of origin: India

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Projectiles, 125mm

125mm BK12M
(HEAT)
Length with I-238 fuze: 677mm
Length without fuze:
INFORMATION NEEDED
Country of origin: USSR

125mm BK14M
(HEAT)
Length with V-15 fuze: 677mm
Length without fuze: 600mm
Country of origin: USSR

125mm BK18M
(HEAT)
Length with V-15 fuze: 660mm
Length without fuze: 600mm
Country of origin: USSR

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Projectiles, 130mm

130mm BR-482B
(APHE-T)
Length without fuze: 475.23mm
Length with fuze: 496.06mm
Note: Uses DBR and DBR-2 fuzes.
Country of origin: USSR

130mm M-46
(HE-frag)
Length without fuze: 609.85mm
Country of origin: Ukraine

130mm OF-482M
(HE-frag)
Length without fuze: 612mm
Length with RGM-2 fuze: 670mm
Country of origin: russia, Ukraine

130mm OF 482M
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Note: Uses the M572E fuze.
Country of origin: Croatia

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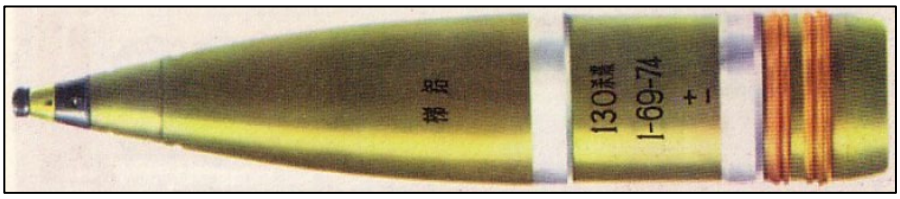
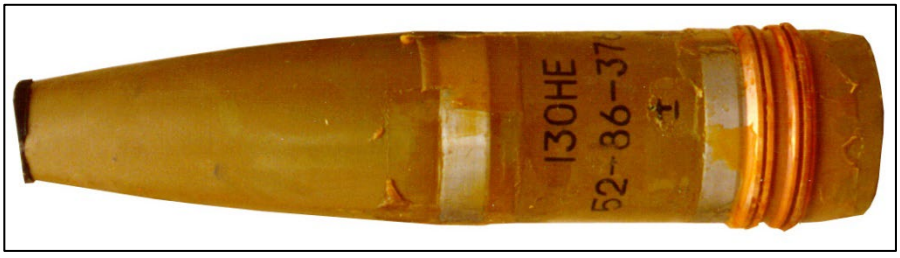
Projectiles, 130mm





130mm “1959年式”
Type 1959
(HE-frag)
Length without fuze: 556mm
Length with 榴-5 / ML-5 fuze: 637mm
Note: Markings may be in either English or Chinese.
Country of origin: China

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Projectiles, 152mm

152mm OF22
(rocket-assisted, HE-frag)
Length with fuze: 754mm
Note: Uses the RGM-2 fuze.
Country of origin: russia

152mm OF25
(HE-frag)
Length without fuze: 650mm
Length with RGM-2 fuze: ~710mm
Country of origin: USSR

152mm OF29
(HE-frag)
Length without fuze: 662mm
Note: Uses the RGM-2 fuze.
Country of origin: USSR

152mm OF45
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with RGM-2 fuze: 864mm
Country of origin: USSR

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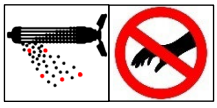
Projectiles, 152mm

152mm OF64
(HE-frag)
Length without fuze: 802mm
Length with V-429 Fuze: 860mm
Country of origin: russia

152mm OF540
(HE-frag)
Length without fuze: 650mm
Country of origin: **INFORMATION NEEDED**

152mm BP-540
(HEAT)
Length without fuze: 531mm
Note: Uses the GPV-3 fuze.
Country of origin: russia



152mm 3-O-25 Submunition Projectile
(HEAT submunitions)
Length without fuze: **INFORMATION NEEDED**
Note: This projectile's designation has not been confirmed yet.
Country of origin: russia

O-25 / 3-O-25

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Projectiles, 152mm

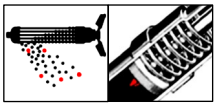
152mm S6 and S6-1
(illumination)

Length without fuze:
INFORMATION NEEDED
Note: Uses T-90 Fuze.
Country of origin:
russia

152mm O-13
(fragmentation submunitions)

Length without fuze: 664mm
Note: Uses DTM-75 fuze.
Contains 8 submunitions.
Country of origin:
russia

O-16 / 3-O-16



152mm Sh2
(flechette)

Length without fuze:
703mm
Note: Uses DTM-75 fuze.
Country of origin: russia

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Projectiles, 152mm

152mm Ukrainian-produced Projectiles
(fragmentation)
Length without fuze:
INFORMATION NEEDED
Country of origin: Ukraine

152mm 3OF39 "Krasnopol"
(laser guided, rocket assisted, HE-frag)
Length: 1300mm
Note: Uses a T-90 fuze to uncover the optical sensor in the nose. Additionally, an internal impact fuze detonates the warhead.
Country of origin: russia

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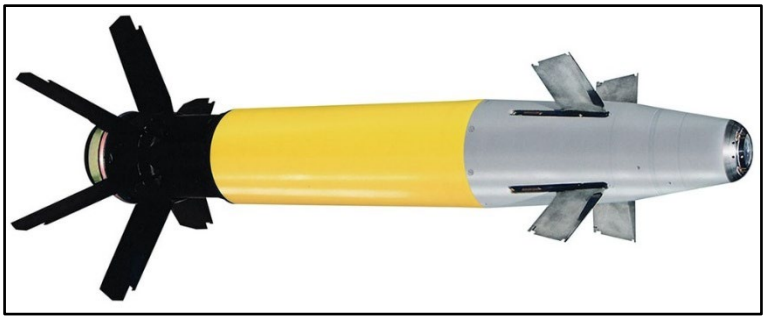
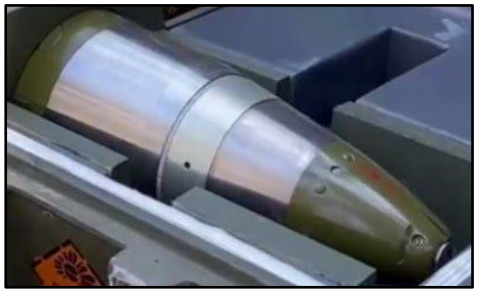
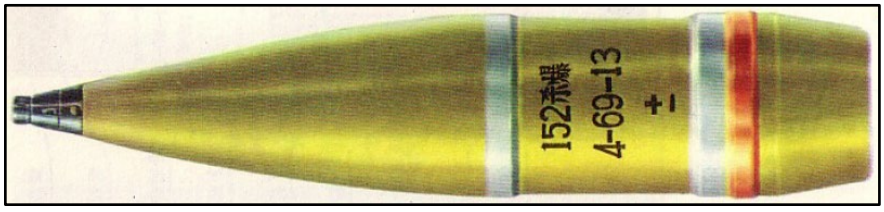
Projectiles, 152mm





152 mm 3OF95
"Krasnopol-M2"
(laser guided, rocket assisted, HE-frag)
Length: 1200mm
Country of origin: russia

152mm HE TNT
(HE-frag)
Length without fuze: 638.5mm
Length with RGM-2 fuze: 695mm.
Country of origin: Turkey



152mm "1966年式"
Type 1966
(HE-frag)
Length without fuze: 706.6mm
Country of origin: China

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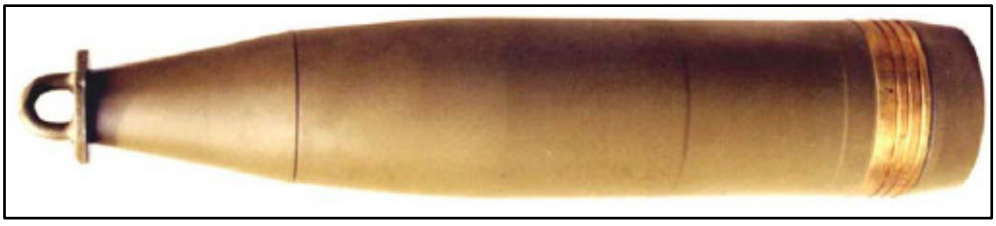
Projectiles, 155mm

155mm M712 Copperhead
(HEAT)

Length: 1.37m
Country of origin: USA



155mm M795
(HE)
Length without fuze: 748mm
Note: Uses the M739A1 fuze.
Country of origin: USA

155mm M549 and M549A1
(rocket-assisted, HE-frag)
Length without fuze: 858mm
Note: Uses the M739A1 fuze.
Country of origin: USA

Delay Assembly

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Projectiles, 155mm

155mm M718 (HEAT submunitions)

Length without fuze: 803mm
Length with M577 Fuze: 899mm
Country of origin: USA

RAAMS / M70 / M73

155mm M741 (HEAT Submunitions)

Length without fuze: 803mm
Length with M577 Fuze: 899mm
Country of origin: USA

RAAMS / M70 / M73

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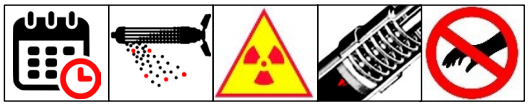
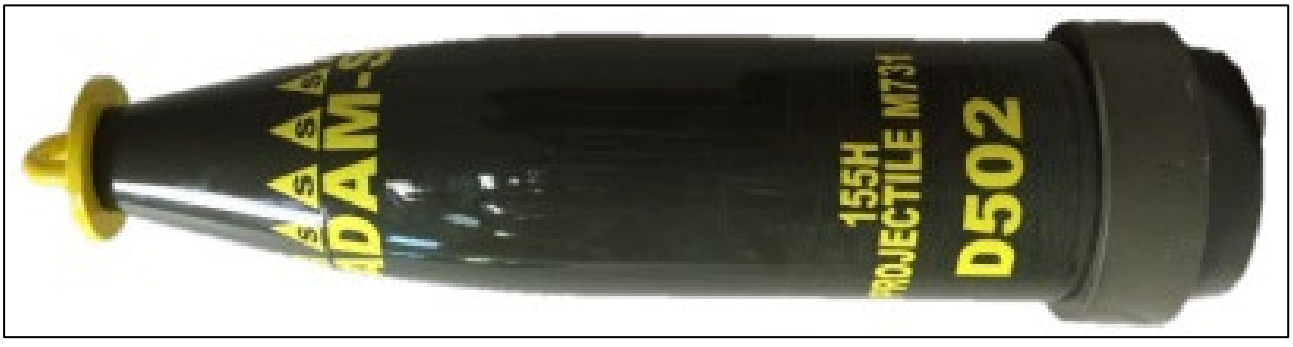
Projectiles, 155mm

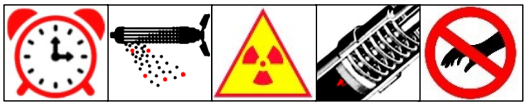
155mm M692
(fragmentation submunitions)
Length without fuze: 803mm
Length with M577 or M762 fuze: 899mm
Country of origin: USA



ADAM



155mm M731
(fragmentation submunitions)
Length without fuze: 803mm
Length with M577 or M762 fuze: 899mm
Country of origin: USA



ADAM

155mm HE ER-BT / OFd MKM
(HE)
Length without fuze: 818mm
Length with KZ-984 fuze: 905mm
Country of origin:
Slovakia

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Projectiles, 155mm

155mm M107 (USA)
(HE)
Length without fuze: 606.81mm
Note: Used with several different fuzes.
Country of origin: USA

155mm M107 (Serbia)
(HE)
Length without fuze:
INFORMATION NEEDED
Country of origin:
Serbia

155mm M107 (India)
(HE)
Length without fuze: 604mm
Country of origin: India

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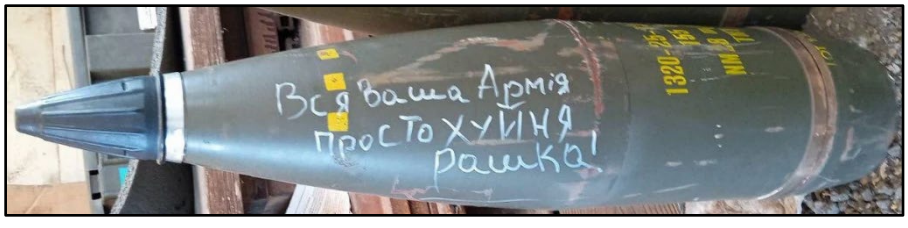
Projectiles, 155mm

155mm M107 (Slovakia)
(HE)
Length without fuze: 601-604mm
Length with KZ-984 fuze: 689mm
Country of origin: Slovakia

155mm M107 (Pakistan)
(HE)
Length without fuze:
INFORMATION NEEDED
Note: Used with several different fuzes.
Country of origin:
Pakistan



155mm NM28
(HE)
Length without fuze:
INFORMATION NEEDED
Length with fuze: **INFORMATION NEEDED**
Country of origin:
Norway

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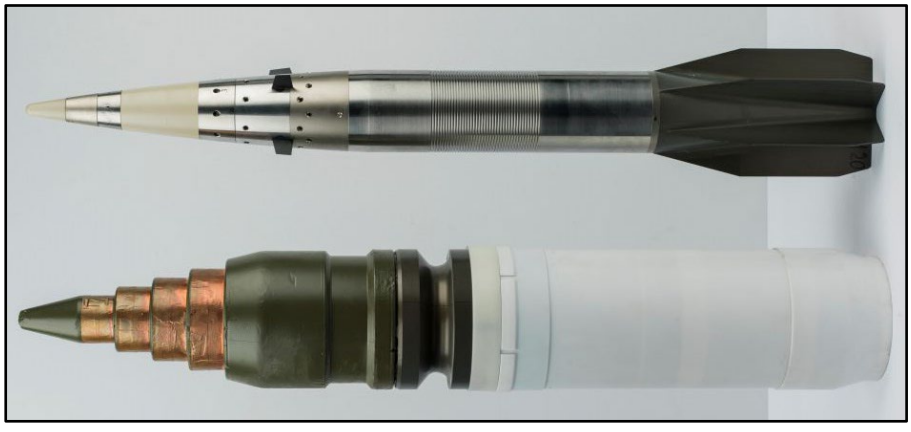
Projectiles, 155mm

155mm M1 A4 ERFB/BT
(HE)
Length without fuze: 842mm
Length with M557P1 fuze: 939mm
Country of origin: India

155mm OE 155 F2
(HE)
Length without fuze:
INFORMATION NEEDED
Length with M557 fuze: 864mm
Country of origin: France

155mm M107 / R-155-M-107
(HE)
Length without fuze: 605mm
Note: Uses the M739A1 fuze.
Country of origin: Spain



155mm Vulcano GLR
(HE-Frag, guided)
Diameter of body after firing:
INFORMATION NEEDED
Wingspan: **INFORMATION NEEDED**
Unfired length: **INFORMATION NEEDED**
Fired length: **INFORMATION NEEDED**
Country of origin: Italy/Germany

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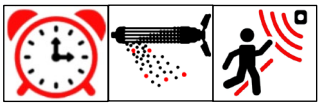
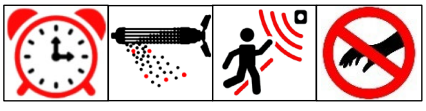
Projectiles, 155mm



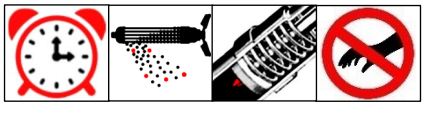
155mm BONUS
(HEAT submunitions)
Length without fuze: 898mm
Note: Uses the FU CHRONO ELN F1 fuze.
Country of origin: France

BONUS



155mm DM702
(HEAT submunitions)
Length with DM52A2 fuze: 898mm
Country of origin: Germany

SMArt

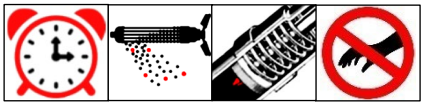


155mm M483A1
(HEAT submunitions)
Length without fuze: 803mm
Length with M577 or M762 fuze: 899mm
Country of origin: Turkey

M42 and M46

155mm M864
(HEAT submunitions)
Length without fuze: 803mm
Length with M577 or M762 fuze: 920mm
Country of origin: USA

M42 and M46



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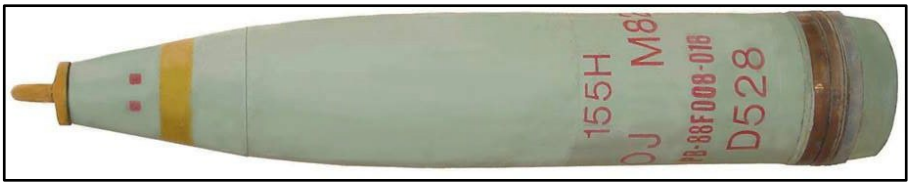
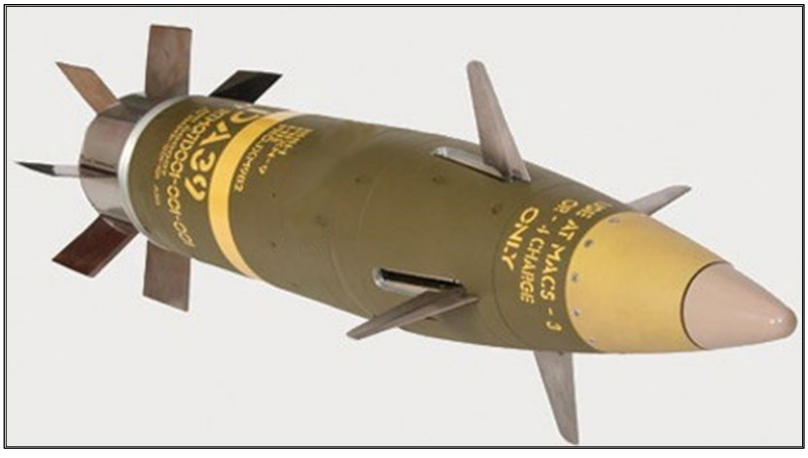
Projectiles, 155mm



155mm M825 and M825A1
(smoke / white phosphorus)
Length without fuze:
M825: 803mm
M825A1: 790mm
Length with M577 Fuze:
M825: 899mm
M825A1: 886mm
Country of origin: USA

155mm DM105
(smoke)
Length without fuze: 779mm
Length with DM153 fuze: 875mm
Country of origin: Germany



155mm M982 and M982A1
Excalibur
(HE, guided)
Length without fuze: 995.68mm
Country of origin: USA

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Projectiles, 170mm

170mm North Korean projectile (model unknown)
(HE-frag)
Length without fuze:
INFORMATION NEEDED
Length with fuze:
INFORMATION NEEDED
Country of origin: North Korea

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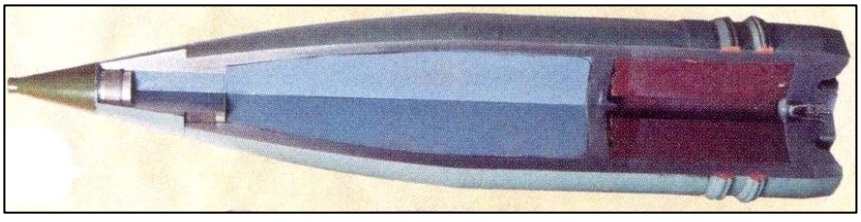
Projectiles, 203mm

203mm OF43
(HE-frag)
Length without fuze: 890mm
Note: Uses V-491 fuze.
Country of origin: russia/Ukraine



203mm OF44
(rocket-assisted, HE-frag)
Length without fuze::
INFORMATION NEEDED
Note: Uses V-491 fuze.
Country of origin: russia

203mm G-620Sh
(concrete-piercing)
Length: 873mm
Note: Uses DBT fuze.
Country of origin: USSR

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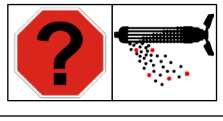
Projectiles, 203mm

203mm M650
(rocket-assisted, HE-frag)
Length without fuze: 1000mm
Length with fuze: 1116mm
Note: Uses the M557 or M739A1 fuzes.
Country of origin: USA

203mm M106
(HE-frag)
Length without fuze: 798mm
Note: Uses the M557 fuze.
Country of origin: USA

203mm O-14
(fragmentation submunitions)
Length: **INFORMATION NEEDED**
Country of origin: russia



[O-16 / 3-O-16]

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Multiple Launch Rocket Systems (MLRS)

Multiple Launch Rocket Systems (MLRS) - one of the types of artillery systems, intended for defeating exposed and hidden enemy personnel, unarmored vehicles and armored personnel carriers, concentrated areas of artillery and mortar batteries, command posts and other targets, as well as for conducting remote mining of terrain.

Due to their large size, dud ammunition from these systems often break up upon impact and the warheads, contents of the warheads, and rocket motors will be found separated. Even in cases where the warheads successfully detonate, all or a large portion of the rocket motors will still survive and be found in the surrounding area. Pay attention to these individual sections of large rockets, as they may offer clues to the presence of other rockets or submunitions!

Some of the ammunition for these systems possess guidance systems that allow them to correct their course during flight. This technically makes them guided missiles. However, since they are usually associated with MLRS they are included in this section and also in the Rockets and Launchers section for convenience. If not found here, check the Guided Missiles (Surface-to-Surface) section.

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122mm MLRS 9K51 "Grad“ / 9K51M “Tornado-G”

9M22U

9M538

9M22S / MZ-21 and 9M28S

9N510

180 x ML-5

9M28D/9N511

Leaflets

9M53F

9N517F

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122mm MLRS 9K51 "Grad“ / 9K51M “Tornado-G” Page 2

Yarmuk

R-122

M-21-FK

Grad 2000 / G2000

Grad S

G2000-P

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220mm MLRS 9K57 "Hurricane"

9N247M

9N277

9N288

9M27F / 9N128F

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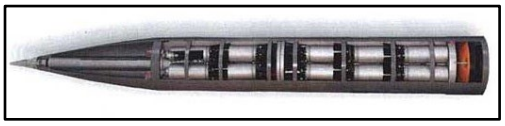
220mm MLRS 9K57 "Hurricane“, Page 2

9M27K



9N128K

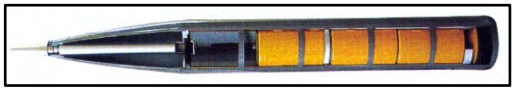
9N235/9N210

9M27K2

9N128K2

PTM-1

9M27K3

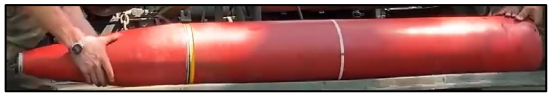


9N128K3

PFM-1S

9M27D

9N128D



Leaflets

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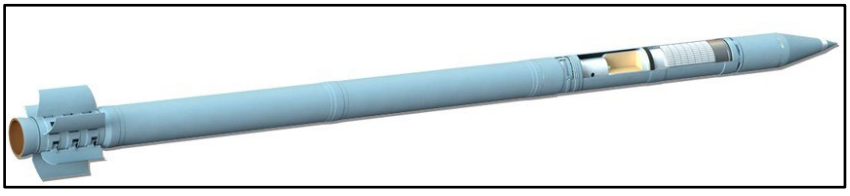
300mm MLRS 9K58 "Smerch" / 9K515 "Tornado-S"

9M528



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Rockets and Launchers

Rockets are munitions that move with the help of a rocket or jet engine, in which thrust is created as a result of burning fuel throughout the flight. They often have fins for stabilization. Also, a good visual indicator of such a rocket is the presence of one or more nozzles (venturi) in the rear part of the munition.

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Rockets and Launchers, 57mm

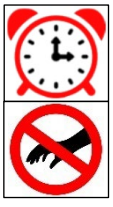
UB-16-57U
(launchers)
Caliber: 57mm
Diameter of body: 321mm
Length: 1678mm

Note: Contains up to sixteen 57mm rockets.
Country of origin: russia

UB-32M
(launchers)
Caliber: 57mm
Diameter of body: 464mm
Length: 2080mm

Note: Contains up to thirty-two 57mm rockets.
Country of origin: russia

57mm S-5K
(HEAT)
Length: 873.8mm
Warhead length: 121.9mm
Note: Uses the V-5K PIBD fuze.
Country of origin: USSR



57mm S-5KPB (HEAT)
Length: 1.08m
Note: Uses the V-5KP PIBD fuze.
Country of origin: USSR

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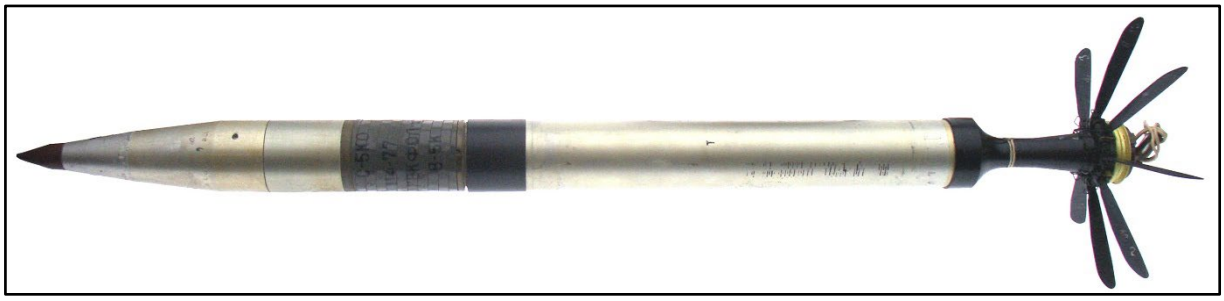
Rockets and Launchers, 57mm



57mm S-5KO
(HEAT)
Length with fuze: 941mm
Length without fuze: 819mm

Note: Uses the V-5K PIBD fuze.
Country of origin: russia/Ukraine

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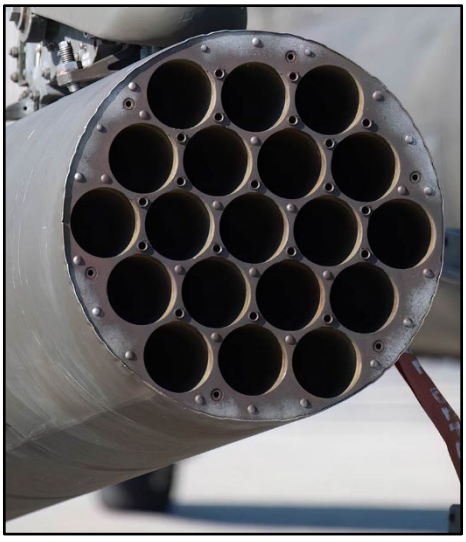
Rockets and Launchers, 70mm

70mm Hydra-70

Length: ~1.4m
Note: These rockets are made of different combinations of fuze, warhead, and rocket motor. The known version in Ukraine is comprised of the M423 or M427 fuze, M151 HE warhead, and MK 66 Series rocket motors.
Country of origin: USA



M261
(launchers)

Caliber: 70mm
Diameter of body: 404mm
Length: 1.66m

Note: Contains up to nineteen 70mm rockets.
Country of origin: USA

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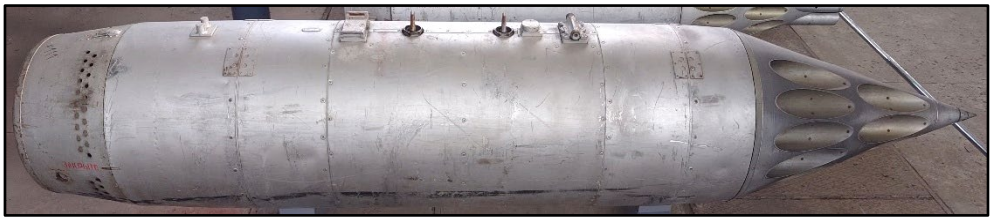
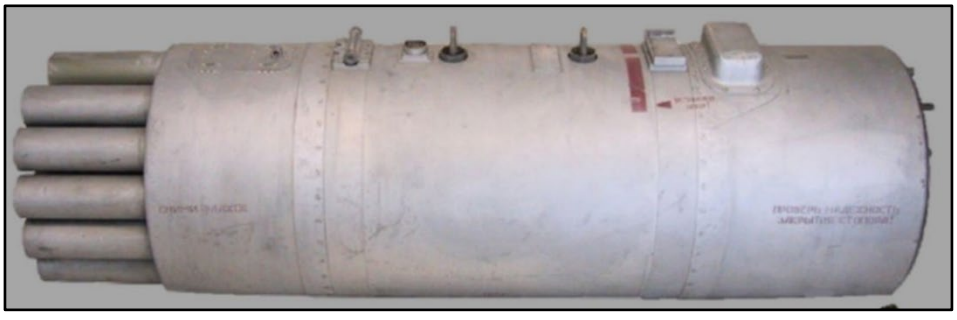
Rockets and Launchers, 80mm



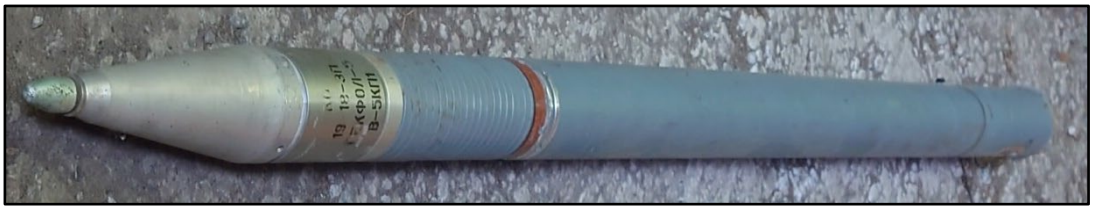
B-8M and B-8M1
(launchers)
Caliber: 80mm
Diameter of body: 520mm
Length: 2.76m

Note: Contains up to twenty 80mm rockets.
Country of origin: russia



B8V20-A
(launchers)
Caliber: 80mm
Diameter of body: 520mm
Length: 1783mm

Note: Contains up to twenty 80mm rockets.
Country of origin: russia



80mm S-8KOM
(HEAT)
Length with fuze: ~1550mm
Country of origin: russia

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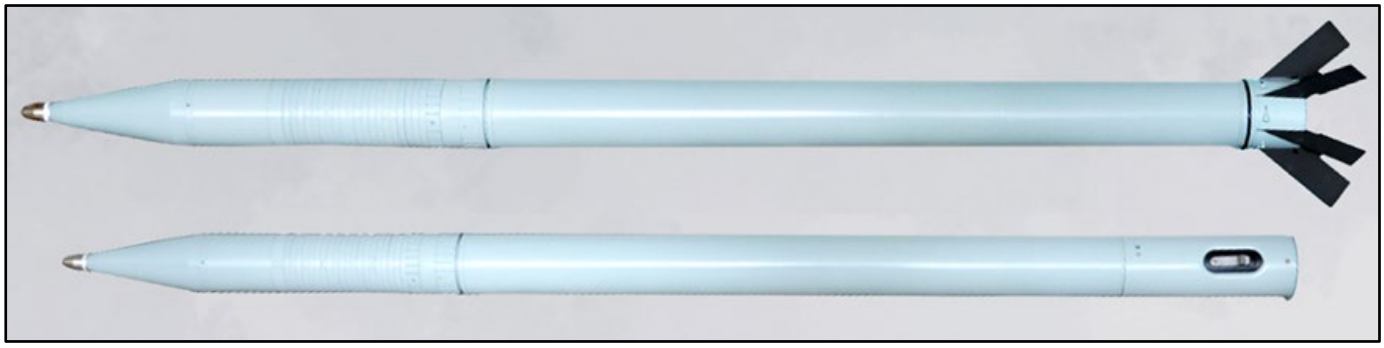
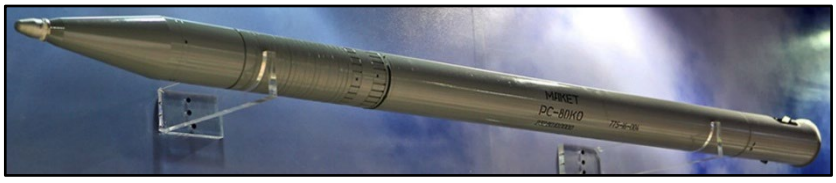
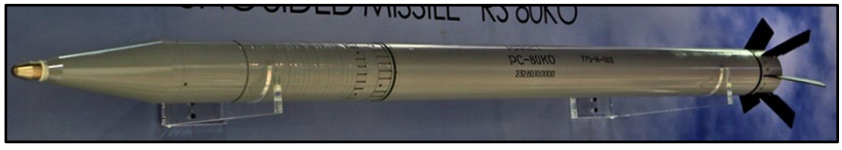
Rockets and Launchers, 80mm

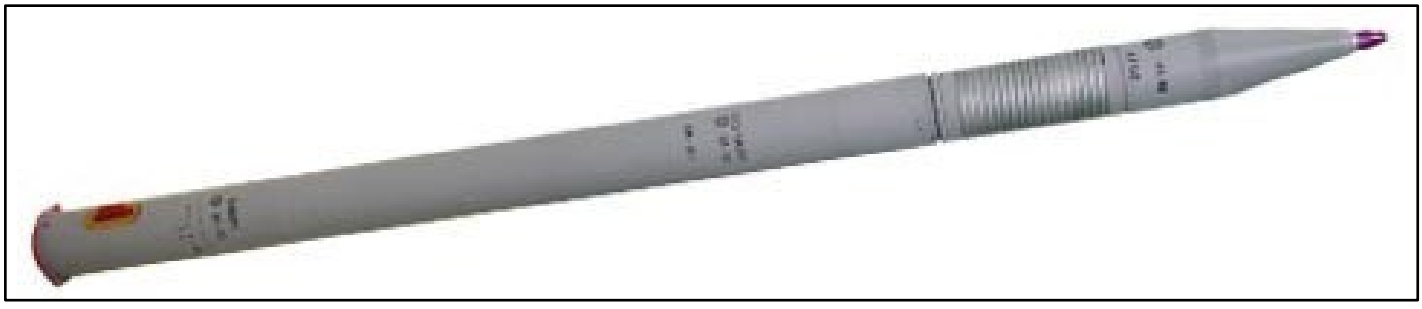






80mm RS-80KO
(HEAT)
Length with fuze: ~1595mm
Country of origin: Ukraine

80mm UAR-80VMZ
(HEAT)
Length with fuze: **INFORMATION NEEDED**
Note: Uses the V-5KP1 PIBD fuze.
Country of origin: Bulgaria



80mm ARS-8KOM
(HEAT)

Length with AF82 fuze: 1542mm
Country of origin: Bulgaria

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Rockets and Launchers, 80mm

80mm S-8P
(anti-radar / chaff)
Length: 1650mm
Wingspan: 384mm
Note: Uses the AVR-5 fuze.
Country of origin: russia

80mm Fadak 2 / S-8 OF
(HE-frag)
Length: 1435mm
Country of origin: Iran

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Rockets and Launchers, 82mm

82mm OG-82 (HE-frag)
Length without fuze: 623mm
Country of origin: USSR

82mm PG-82 (HEAT)
Length without fuze: 694mm
Country of origin: USSR

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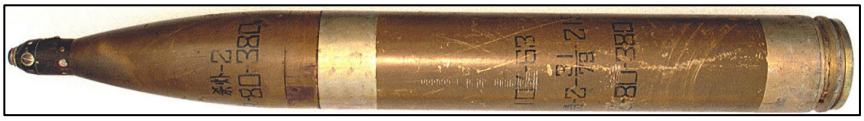
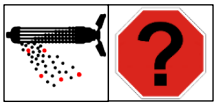
Rockets and Launchers, 107mm



107mm 63年2式 Type 63-2
(HE-frag)
Length without fuze: 760mm
Length with 簡-1式 / MJ-1 fuze: 840mm
Note: Markings may be in either English or Chinese.
Country of origin: China

107mm MLRS-107-OF (파지-921)
(HE-frag)
Length without fuze: 760mm
Length with fuze: 835mm
Note: Normally used with 방-107 Type 107 and 방-76 Type 76 fuzes.
Country of origin: North Korea



107mm MLRS-107-E (107산포)
(HEAT submunitions)
Length: **INFORMATION NEEDED**
Note: Normally used with the 공방-107신 fuze. Contains 15 submunitions.
Country of origin: North Korea

[North Korean submunition (from 107mm rockets)]

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Rockets and Launchers, 122mm

122mm 9M22U
(HE-frag)

Length: 2870mm
Note: Uses the MRV-U fuze.
Country of origin: russia, Bulgaria

[122mm MLRS]

[122mm MLRS]

122mm 9M538
(HE-frag)
Length with MRV-U fuze: 2588mm
Note: Uses the 9N549 warhead.
Country of origin: russia

122mm 9M22S / MZ-21
(incendiary)
Length with TM-120 fuze: 2970mm
Note: Uses the 9N510 warhead, which contains 180 incendiary elements.
Country of origin: USSR

[122mm MLRS] [ML-5]

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Rockets and Launchers, 122mm

122mm MLRS | ML-5

122mm 9M28S
(incendiary)
Length with TM120 fuze: 2298 / 2318mm
Note: Uses the 9N510 warhead, which contains 180 incendiary elements.
Country of origin: russia

122mm 9M28D
(propaganda)
Length: 2280mm
Note: Uses the 9N511 warhead, which contains leaflets.
Country of origin: russia

122mm MLRS

122mm 9M53F
(HE-frag)
Length: 3037mm
Note: Uses the 9N517 warhead and 9E260-1 fuze.
Country of origin: USSR

122mm MLRS

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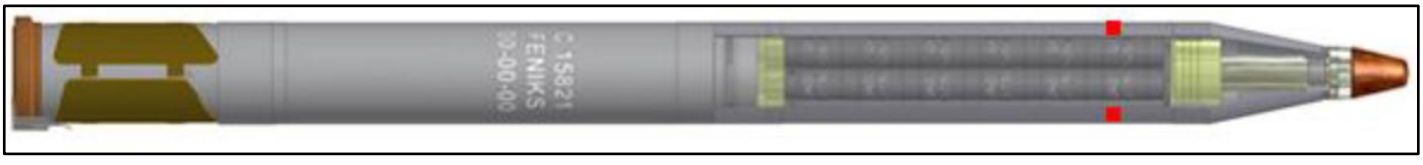
Rockets and Launchers, 122mm

122mm Yarmuk
(HE-frag)
Diameter: 122mm
Length: 2875mm
Country of origin: Pakistan

[122mm MLRS]

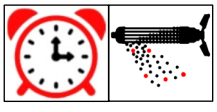
122mm R-122
(HE-frag)
Length: **INFORMATION NEEDED**
Country of origin: North Korea

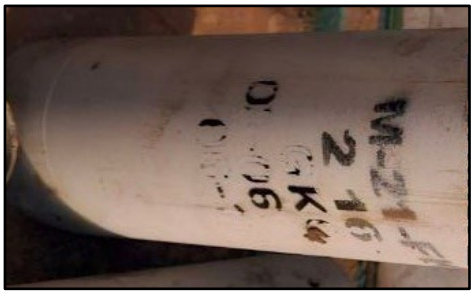
[122mm MLRS]



122mm M-21-FK
(HEAT submunitions)
Length with Cezar-100M fuze: 2741mm
Country of origin: Poland

[122mm MLRS] [GKO]





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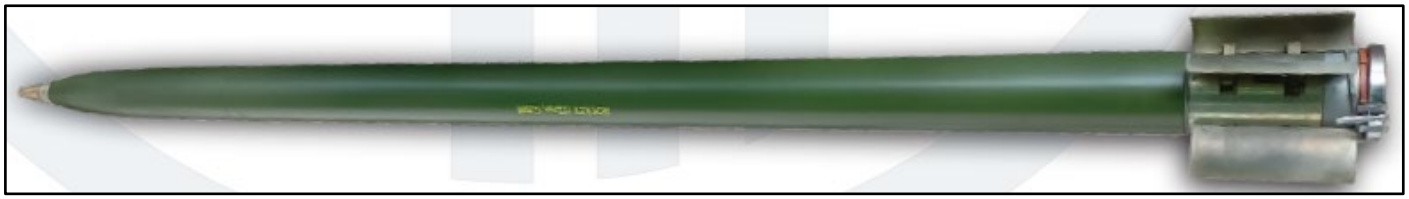
Rockets and Launchers, 122mm



122mm Grad 2000 / G2000
(HE-frag)

Length: 2875mm
Note: Uses the MRV-U fuze.
Country of origin: Serbia

122mm MLRS

122mm Grad S
(HE-frag)

Length: 2875mm
Note: Uses the MRV-U fuze.
Country of origin: Serbia

122mm MLRS

122mm G2000-P
(HE-frag)

Length with MRV-U fuze: 1930mm
Country of origin: Serbia

122mm MLRS

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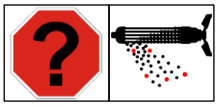
Rockets and Launchers, 122mm

122mm North Korean cluster rockets (model unknown)
(HEAT submunitions)
Length: **INFORMATION NEEDED**
Country of origin: North Korea

North Korean submunition (from 122mm rockets)

122mm MLRS



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Rockets and Launchers, 122mm

B-13L
(launchers)
Caliber: 122mm
Diameter of body: 410mm
Height: 465mm
Length: 3558mm
Note: Contains up to five 122mm rockets. When the aircraft crashes or this launcher is dropped, the front nose section is often torn away.
Country of origin: russia

B-13L1
(launchers)
Caliber: 122mm
Diameter of body: 410mm
Height: 465mm
Length: 3178mm

Note: Contains up to five 122mm rockets.
Country of origin: russia

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Rockets and Launchers, 127mm

LAU-10 Series
(launchers)

Caliber: 127mm
Diameter of body: 353mm
Length: 2.44m
Note: Contains up to four 127mm rockets.
Country of origin: USA

127mm Zuni

Length: ~2.6m
Note: These rockets are made of different combinations of fuze, warhead, and rocket motor. The known version in Ukraine is comprised of the MK 188 Mod 0 fuze, MK 32 Mod 0 anti-tank/antipersonnel warhead, and MK 71 Mod 2 rocket motor.
Country of origin: USA

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Rockets and Launchers, 127mm

127mm MK 22 Mod 4
Length: 1.95m
Country of origin: USA

M58 MICLIC

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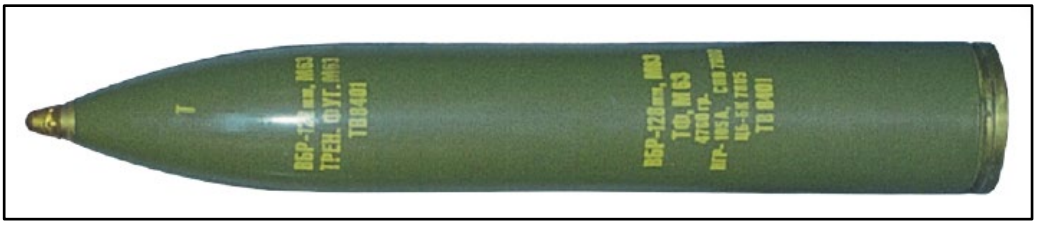
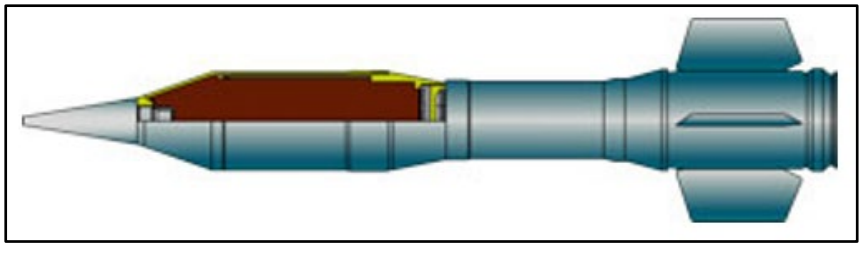
Rockets and Launchers, 128-140mm

128mm M63
(HE)
Length with UTI M63 fuze: 756mm
Country of origin:
Former Yugoslavia





140mm OF-45
(HE-frag)
Length: 1125mm
Country of origin: russia

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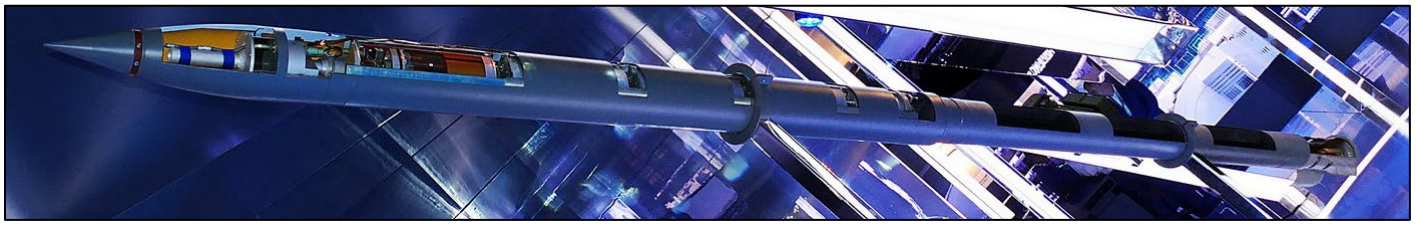
Rockets and Launchers, 128-140mm

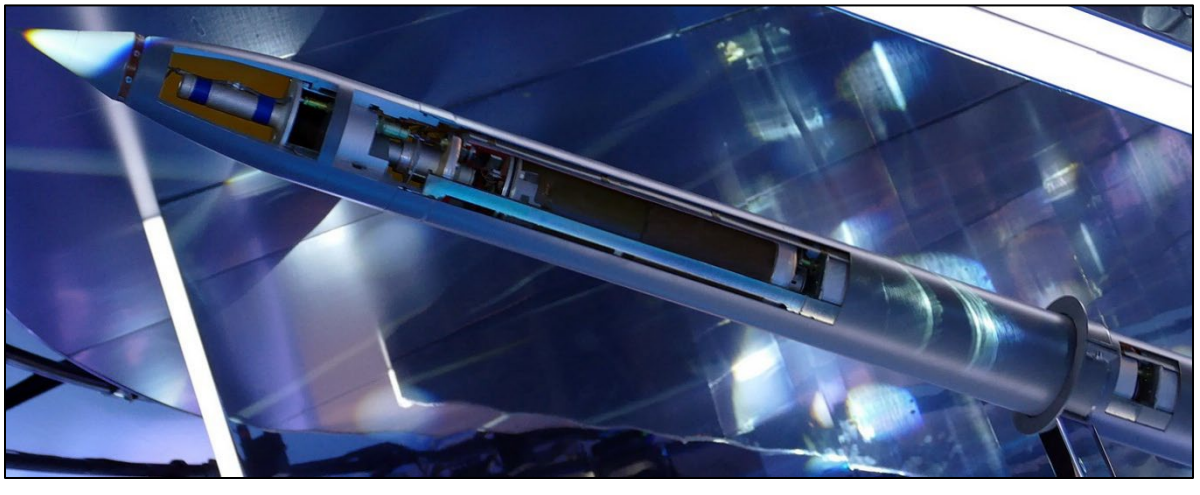
140mm KIB (engineer cluster ammunition)
(bounding fragmentation or HEAT submunitions)

Length: 4000mm
Diameter of rocket motor: 122mm
Note: These rockets are fired from the "ISDM Agriculture" remote mine-laying system.
Country of origin: russia

PTM-4M

POM-3





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Rockets and Launchers, 150-212mm

150mm DM-70
Length: ~ 1.6m
Country of origin: russia

[UR-67] [UR-77] [UR-83P]

212mm RGB-60
(HE)
Length without fuze: ~1830mm
Note: To adapt this rocket for use on land, the UDV-60 fuze is usually replaced with an MRV-U fuze.
Country of origin: russsia

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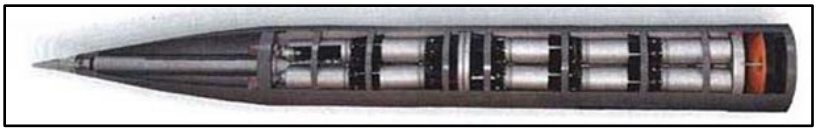
Rockets and Launchers, 220mm

220mm MO.1.01.04M
(thermobaric)
Length: 3.7m
Note: Uses the MRV-U fuze.
Country of origin: russia

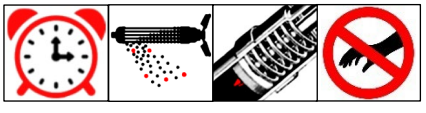
220mm 9M27F
(HE-frag)
Length: 4832mm
Note: Uses the 9N128F warhead and MRV-U fuze.
Country of origin: russia

220mm MLRS



220mm 9M27K
(HE-frag submunitions)
Length: 5178mm
Note: Uses the 9N128K warhead and TM-120 fuze.
Country of origin: USSR

220mm MLRS



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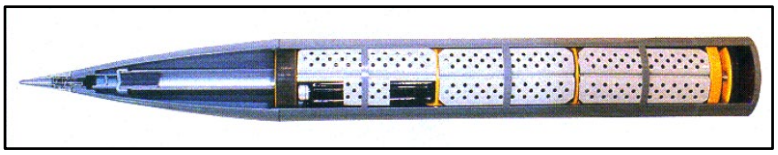
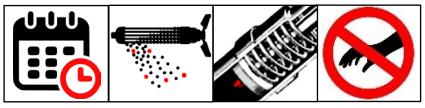
Rockets and Launchers, 220mm

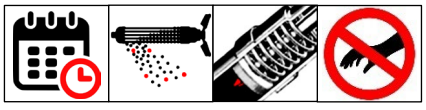


220mm 9M27K2
(HE submunitions)
Length: 5178mm
Note: Uses the 9N128K2 warhead and TM-120 fuze.
Country of origin: USSR

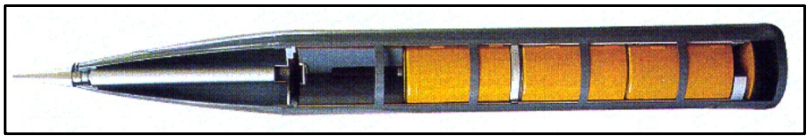


[220mm MLRS]

220mm 9M27K3
(HE submunitions)
Length: 5178mm
Note: Uses the 9M128K3 warhead and TM-120 fuze. Each rocket contains 12 KPFM-1S cassettes.
Country of origin: USSR/russia



[220mm MLRS]



KPFM-1S / 9N223 Cassette
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Height: **INFORMATION NEEDED**
Note: Each cassette contains 26 PFM-1S submunitions.
Country of origin: USSR/russia

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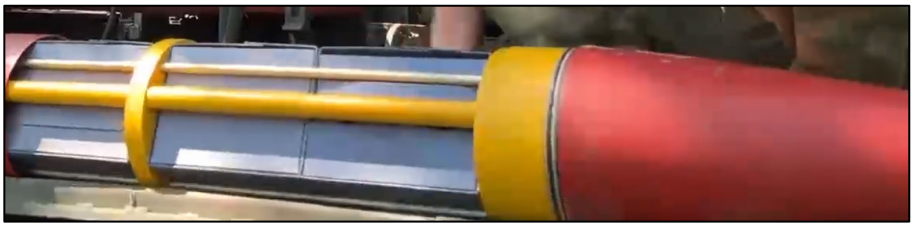
Rockets and Launchers, 220mm



220mm 9M27D
(propaganda)
Length: **INFORMATION NEEDED**
Note: Uses the 9N128D warhead and TM-120 fuze.
Country of origin: russia

220mm MLRS

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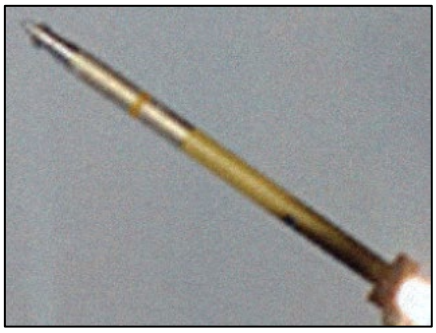
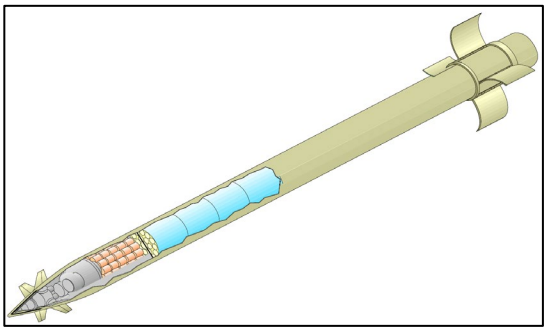
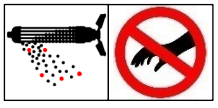
Rockets and Launchers, 227mm

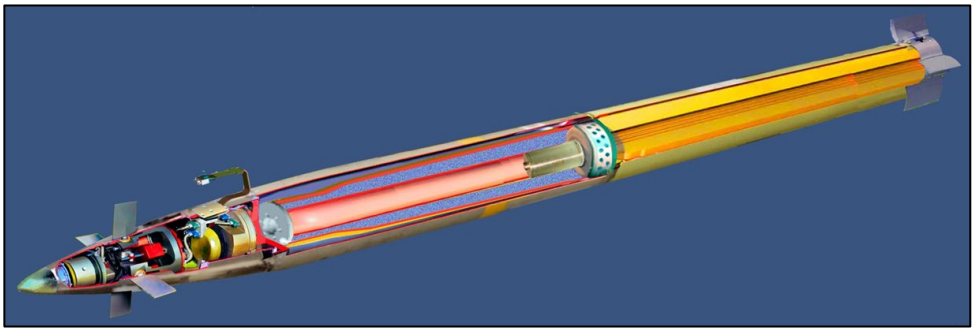




227mm M30
(HEAT submunitions)
Length: 3937mm
Note: Uses the GMLRS ESAD fuze.
Country of origin: USA



M77 and M101



227mm M30A1
(HE-frag)
Length: 3937mm
Note: Uses the AW Alternative Warhead and GMLRS ESAF fuze.
Country of origin: USA

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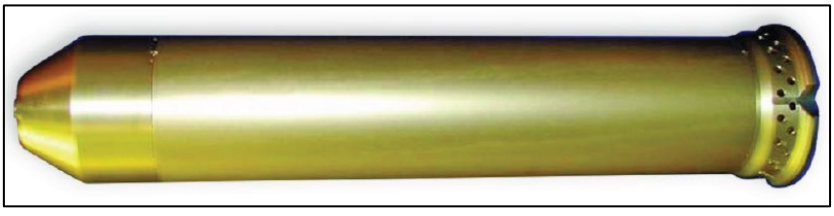
Rockets and Launchers, 227mm

227mm M31A1
(HE-frag)
Length: 3937mm
Note: Uses the GMLRS ESAF fuze.
Country of origin: USA



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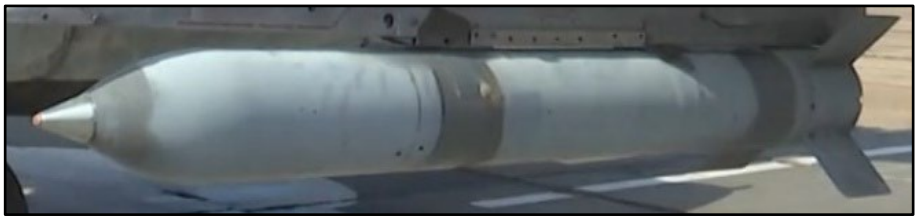
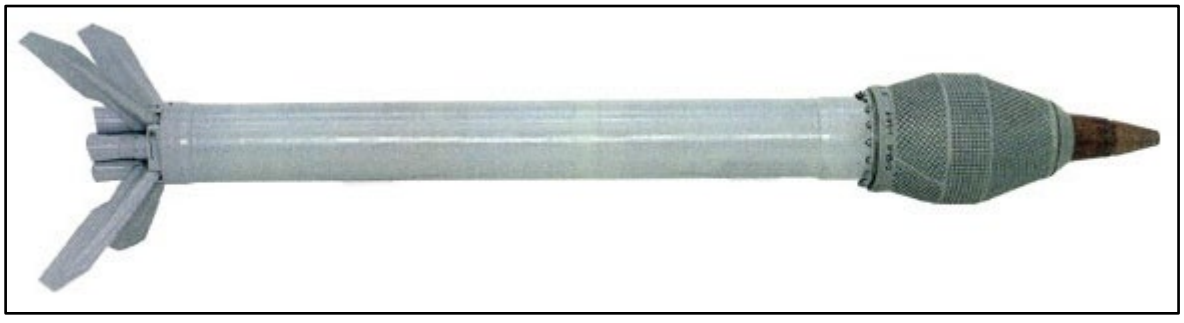
Rockets and Launchers, 240-266mm



240mm S-24B
(HE-frag)
Length with V-24A fuze: 2220mm
Tailspan: 600mm
Country of origin: USSR

266mm S-25-O
(fragmentation)
Diameter of body: 266mm
Diameter of the warhead: 420mm
Length with fuze: 3760mm
Finspan: 1170mm
Note: Uses the RV-25 fuze.
Country of origin: USSR



266mm S-25-OF
(HE-frag)
Diameter of body: 266mm
Diameter of the warhead: 340mm
Length with fuze: 3560mm
Finspan: 1170mm
Country of origin:
USSR

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Rockets and Launchers, 240-266mm

266mm S-25-OFM
(HE-frag)
Diameter of body: 266mm
Diameter of the warhead: 340mm
Length with fuze: 3560mm
FInspan: 1170mm
Note: Uses the I-415 fuze.
Country of origin: USSR

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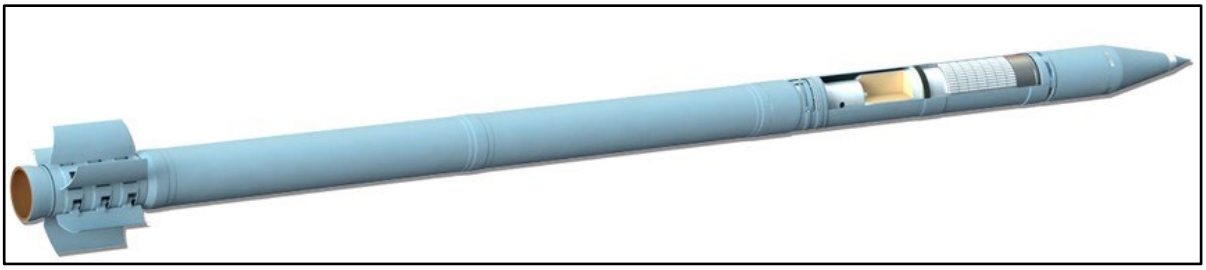
Rockets and Launchers, 300mm



300mm 9M528
(HE-frag)
Total length: 7600mm
Length of warhead: 2049mm
Country of origin: USSR

300mm MLRS

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RPGs and RPG Ammunition

RPGs are a broad category of man-portable, shoulder-fired recoilless weapons that launch or fire unguided rockets, projectiles, and rocket-assisted projectiles. They may be single-use or reloadable; usually reloadable RPGs, such as the RPG-7 Series and Carl Gustav recoilless guns, accept many different rounds of ammunition. Shoulder-fired weapons that employ guided missiles, such as ATGMs and MANPADS, will be located in the Guided Missile sections.

Often the commonly used name of single-use RPGs and their ammunition are the same or almost the same, even if they have very different official nomenclature; entries in this section will contain both names if they are both widely used.

Most RPGs and their ammunition are antitank, but some possess fragmentation, antibunker, thermobaric, or multifunctional warheads. Their fuzes are usually sensitive to impact and movement even if they fail to initially detonate, and almost all models use some kind of self-destruct mechanism.

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RPG-7 Series (Page 1)

OG-7

OGi-7MA

POM-2 with PG-7 motor

PG-7VM / PG-7M and PG-7WM / PG-7M

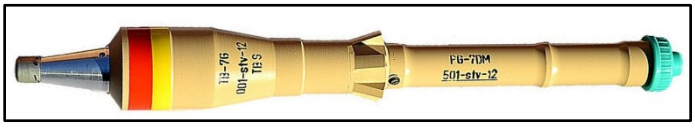
PG-7V

PG-7S

PF69-40 HEI

OG-7V

TB-7V / TB-7G and TB-7VM / TB-7GM



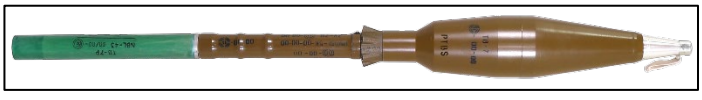
PG-7VS and PG-7VS1

TBG-7V

PG-7VL and PG-7L

“69-1式” Type 69-1

TB-7 / TB-7V



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RPG-7 Series (Page 2)

TBG-7L / TBG-7VL

AHG-7SP / AHG-7 SPV

PG-7T

PG-7VR

RTB-7MA / GTB-7MA

GTB-7S

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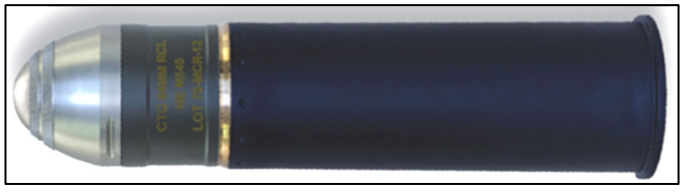
Carl Gustav

FFV441D

FFV401

M540



FFV502

FFV545C

SLPSGR m/66

FFV551C

FFV751

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RPG, 40mm

40mm OG-7
(HE-frag)
Length without fuze: 256mm
Note: Uses the O-4M and GO-2 fuzes.
Country of origin: USSR

RPG-7 Series

40mm OG-7V
(HE-frag)
Unfired length: 595mm
Note: Usually uses O-4M fuze.
Country of origin: Bulgaria

RPG-7 Series

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RPG, 40mm

<u>40mm OGi-7MA</u>
(HE-frag)
Length without fuze: **INFORMATION NEEDED**
Note: Uses the AF72 and AF76 fuzes.
Country of origin: Bulgaria

RPG-7 Series

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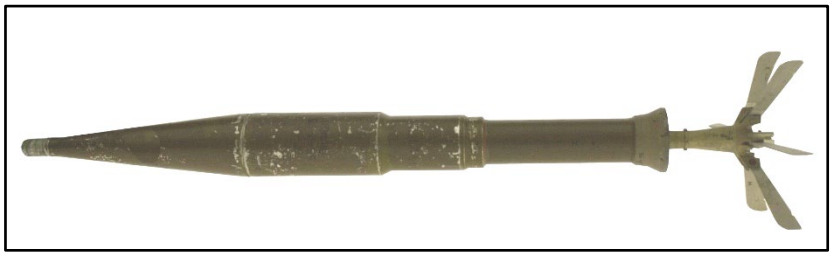
RPG, 45-62mm

45mm FG-45
(HE)
Unfired length:
INFORMATION NEEDED
Country of origin: russia

DP-64 Anti-saboteur Grenade Launcher
Caliber: 45mm
Country of origin: russia

PG-16
(HEAT)
Diameter: 58mm
Fired length: 685mm
Unfired length: 980mm
FInspan: 171mm
Launcher length: 645/1104mm
Country of origin: russia



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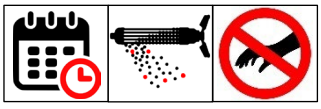
RPG, 45-62mm

POM-2 with PG-7 motor
(fragmentation mine)

Diameter: 62mm
Length: varies
Note: Depending on the modification, the POM-2 may or may not eject away from the PG-7 motor.
Country of origin: russia



RPG-7 Series

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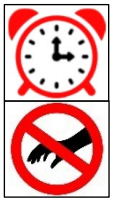
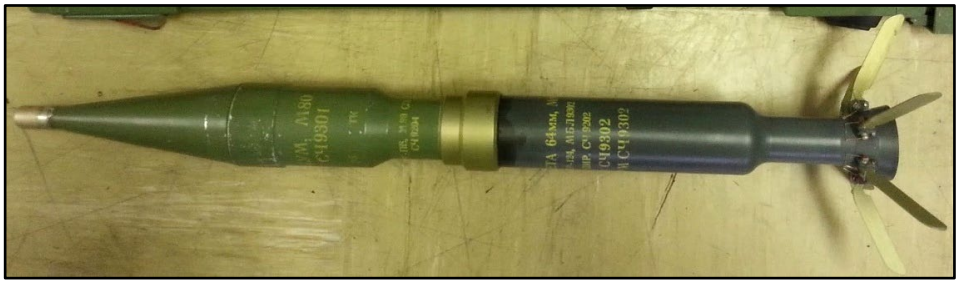
RPG, 64-66mm

PG-18
(HEAT)

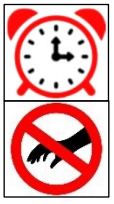
Diameter: 64mm
Fired length: ~650mm
Tailspan: 210mm
Launcher length: 705/1050mm
Note: In the photo the piezoelectric element is missing.
Country of origin: USSR





M80
(HEAT)

Diameter: 64mm
Fired length: 669mm
Launcher length: 800/1200mm
Country of origin: Serbia



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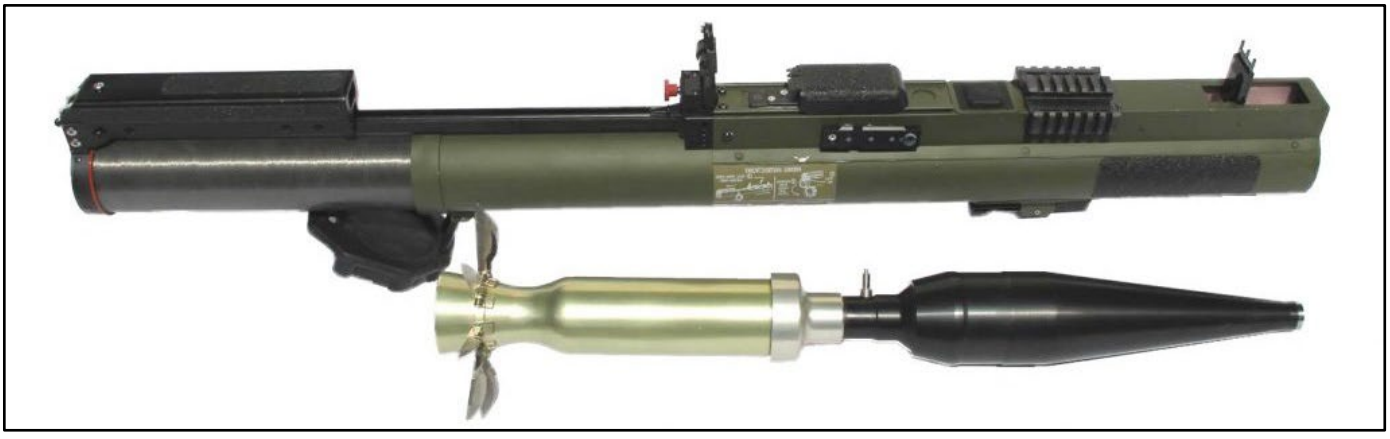
RPG, 64-66mm



M72 EC MK1 (HEAT)

Diameter: 66mm
Length: **INFORMATION NEEDED**
Launcher length: 780/980mm
Country of origin: Norway

M72A5 / 66 KES 88 / JVA 2042 (HEAT)

Diameter: 66mm
Length: **INFORMATION NEEDED**
Launcher length: 771/981mm
Country of origin: Finland

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RPG, 64-66mm

M72A6/A7
(HEAT)

Diameter: 66mm
Length of rocket: 532mm
Launcher length: 780/981mm
Country of origin: Norway

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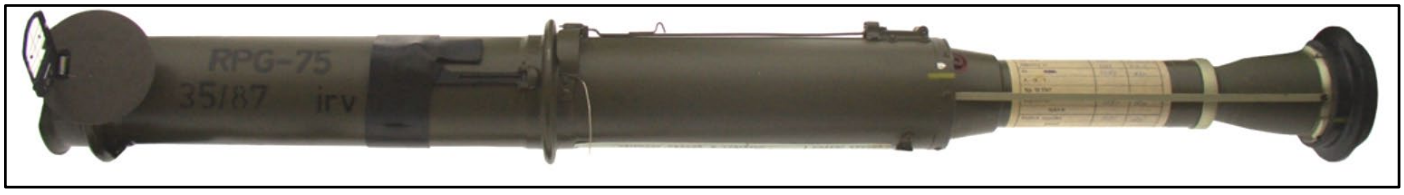
RPG, 68mm

PG-75
(HEAT)
Diameter: 68mm
Length: 270mm
Launcher length: 630/890mm
Country of origin: Czech Republic



PG-75 M
(HEAT)
Diameter: 68mm
Length: **INFORMATION NEEDED**
Launcher length: 630/890mm
Country of origin: Czech Republic

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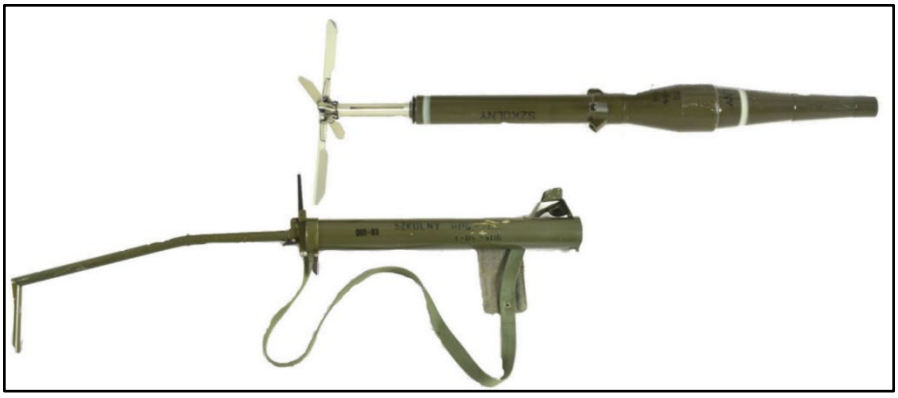
RPG, 68mm



PG-76
(HEAT)
Diameter:68mm
Length: **INFORMATION NEEDED**
Launcher length: 805/1190mm
Country of origin: Poland

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RPG, 70-81mm

PG-7VM / PG-7M and PG-7WM / PG-7M
(HEAT)
Diameter: 70mm
Fired length: 951mm
Country of origin: russia, Bulgaria, Poland

RPG-7 Series

PG-7S
(HEAT)

Diameter: 70mm
Fired length: 670mm
Country of origin: russia

RPG-7 Series

PG-7VS and PG-7VS1
(HEAT)
Diameter: 72mm
Unfired length: 925mm
Country of origin: USSR

RPG-7 Series

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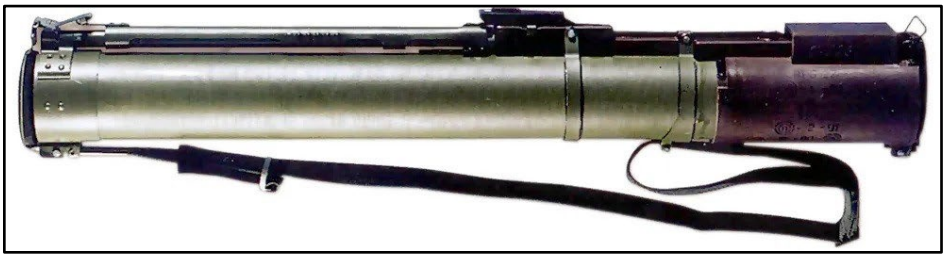
RPG, 70-81mm

RShG-2 “Aglen-2”
(thermobaric)

Caliber: 72.5mm
Launcher length: 770mm
Rocket length: 510mm
Tailspan: 230mm
Country of origin: russia



RPG-22
(HEAT)

Diameter: 72.5mm
Rocket length: 610mm
Tailspan: 230mm
Launcher length: 755/850mm
Country of origin: USSR, Bulgaria

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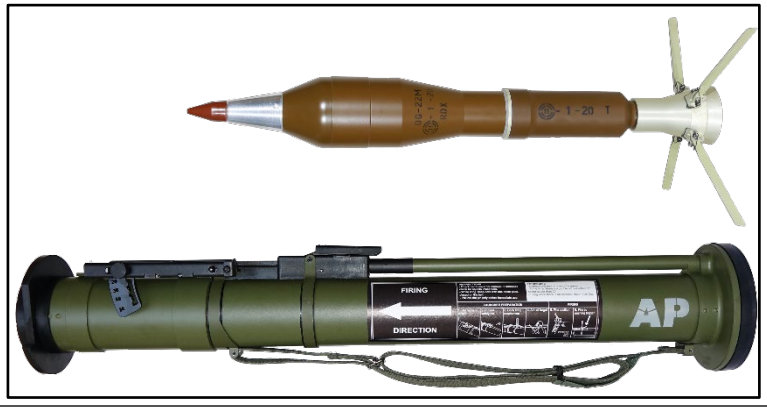
RPG, 70-81mm

PG-26
(HEAT)
Diameter: 72.5mm
Rocket length: 625mm
Launcher length: 770mm
Country of origin: USSR

Bulspike-AT/PG-22
(HEAT)
Diameter: 72.5mm
Rocket length: **INFORMATION NEEDED**
Launcher length: **INFORMATION NEEDED**
Country of origin: Bulgaria

Bulspike-TB/TB-22M
(thermobaric)
Diameter: 72.5mm
Launcher length: 765mm
Rocket length: **INFORMATION NEEDED**
Country of origin: Bulgaria



Bulspike-AP/OG-22M
(HE-frag)
Diameter: 72.5mm
Launcher length: 780mm
Rocket length: **INFORMATION NEEDED**
Country of origin: Bulgaria

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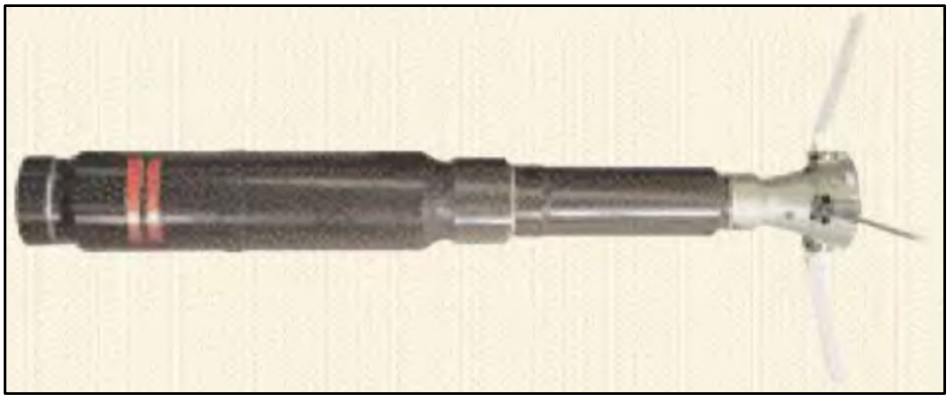
RPG, 70-81mm



MRO-A
(thermobaric)
Caliber: 72.5mm
Launcher length: 900mm
Rocket length: 760mm
Tailspan: 168mm
Country of origin: russia

PF69-40 HEI
(HE-frag, incendiary)
Diameter: 75mm
Fired length: ~530mm
Country of origin: China

RPG-7 Series

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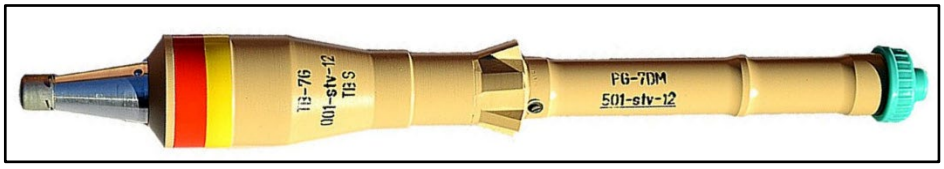
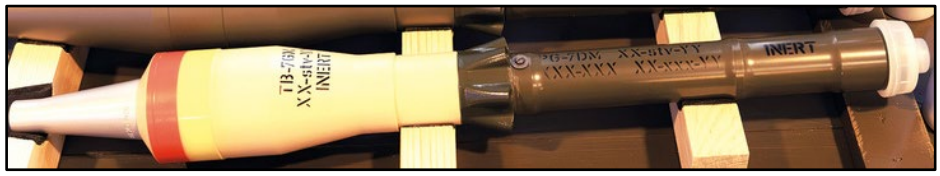
RPG, 70-81mm

DRTG-73/TG-73
(tandem HEAT)
Caliber: 73mm
Front warhead diameter: 50mm
Rear warhead diameter: 72.5mm
Fired length: ~820mm
Launcher length: ~925mm
Country of origin: Bulgaria

Серії РПГ-7





TB-7V / TB-7G and TB-7VM / TB-7GM
(thermobaric)
Diameter: 70.2mm
Length with GO-2 fuze:
INFORMATION NEEDED
Country of origin: Czech Republic

PG-2
(HEAT)
Diameter: 81.28mm
Unfired length: 759.5mm
Fired length: 665.5mm
Country of origin: USSR

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RPG, 83mm

MK 153 / SMAW

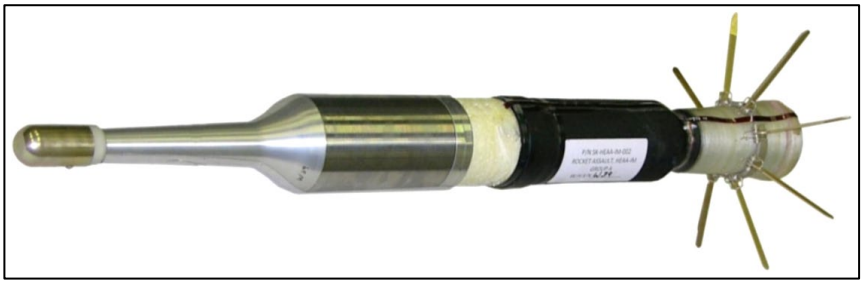
Diameter of rockets: 83mm
Launcher length: 1360mm
Note: This is a reloadable launcher that can fire several different rockets.
Country of origin: USA

MK 1 MOD 0
(anti-bunker)

Diameter: 83mm
Length: 560mm
Note: When used with the SMAW, this rocket is contained in a MK 3 MOD 0 launch tube.
Country of origin: USA

MK 8 MOD 0
(HEAT)

Diameter: 83mm
Length: 822mm
Note: When used with the SMAW, this rocket is contained in a MK 6 MOD 0 launch tube.
Country of origin: USA



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RPG, 83mm

M141 / SMAW-D
(anti-bunker)

Diameter of rocket: 83mm
Rocket length: 560mm
Launcher length: 792/1371mm

Note: This disposable launcher fires the MK 1 MOD 0 rocket.
Country of origin: USA

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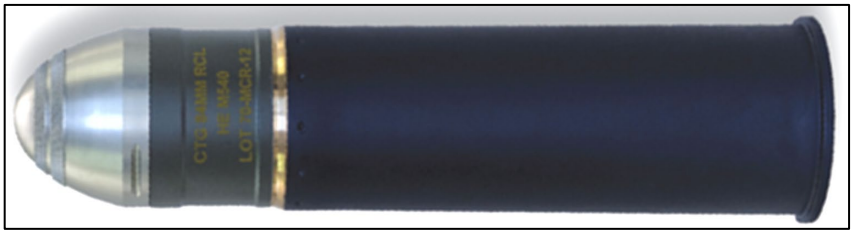
RPG, 84-85.1mm

84mm AT4CS AST
(antistructure tandem)
Projectile length: **INFORMATION NEEDED**
Launcher length: ~1m
Country of origin: USA, Sweden

84mm FFV401
(shrapnel)
Length of projectile: 177.8mm
Length with cartridge: 383mm
Country of origin: Sweden

Carl Gustav

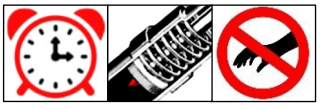


Carl Gustav

84mm M540
(HE-frag)
Projectile length: **INFORMATION NEEDED**
Length with cartridge: 370mm
Note: Uses the M8406 fuze.
Country of origin: Belgium

Carl Gustav

84mm FFV545C
(illumination)
Length of projectile:
INFORMATION NEEDED
Length with cartridge: 466mm
Country of origin: Sweden



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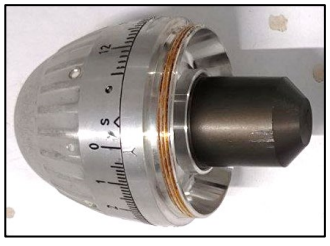
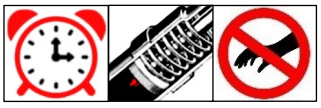
RPG, 84-85.1mm

84mm FFV502
(HE + HEAT, dual purpose)
Length of projectile: 337mm
Length with cartridge: 437mm
Country of origin: Sweden

Carl Gustav



84mm FFV441D
(HE-frag)
Projectile length: 180mm
Length with cartridge: 376mm
Country of origin: Sweden



Carl Gustav

Carl Gustav

84mm SLPSGR m/66
(HEAT)
Length of projectile:
INFORMATION NEEDED
Length with cartridge: 535mm
Country of origin: Sweden

Carl Gustav

84mm FFV551C
(rocket-assisted, HEAT)
Length of projectile:
INFORMATION NEEDED
Length with cartridge: 645mm
Country of origin: Sweden

Return to Table of Contents

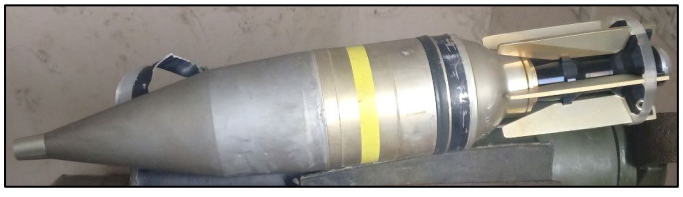
RPG, 84-85.1mm

84mm FFV751
(rocket-assisted, tandem HEAT)
Projectile length: **INFORMATION NEEDED**
Length with cartridge: 760mm
Country of origin: Sweden

Carl Gustav

84mm AT4 (M136) and Pansarskott 86
(HEAT)
Projectile length: 452.3mm
Launcher length: 1020mm
Country of origin: USA, Sweden

84mm AT4CS-RS (M136A1)
(HEAT)
Projectile length: 462mm
Launcher length: 1040mm
Country of origin: USA, Sweden



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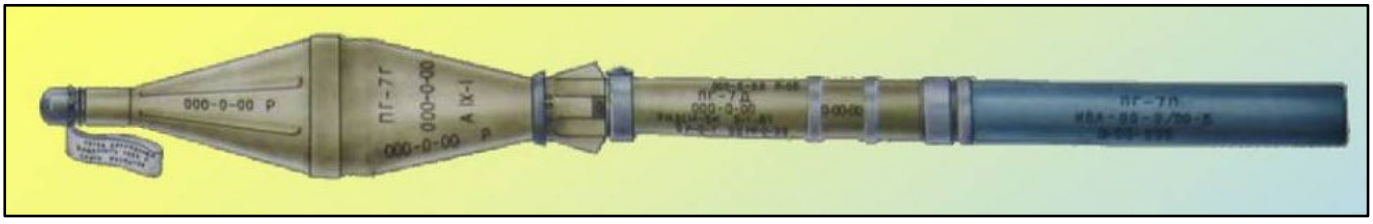
RPG, 84-85.1mm



PG-7V (HEAT)
Diameter: 85.1mm
Unfired length: 898.9mm
Note: The warhead is marked with "PG-7G".
Country of origin: USSR

RPG-7 Series

“69-1式” Type 69-1 (HEAT)
Diameter: 85mm
Unfired length: 926mm
Note: The warhead is marked with "40破".
Country of origin: China

RPG-7 Series

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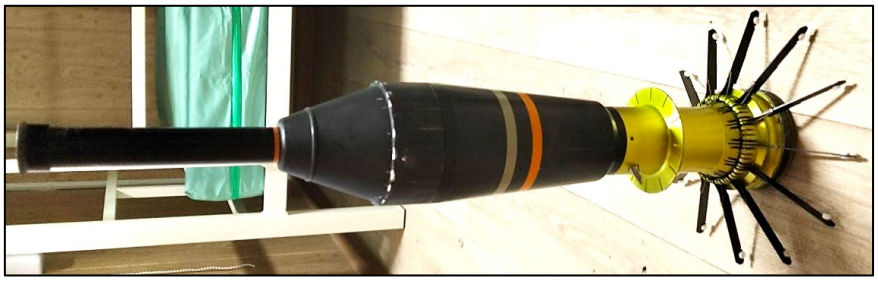
RPG, 90mm

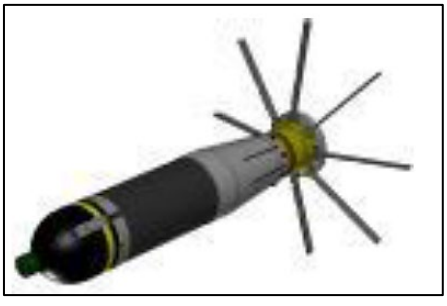
RGW90 HH
(HEAT/HESH)

Caliber: 90mm
Length: **INFORMATION NEEDED**
Launcher length: 960/1080mm
Note: The projectile is set to “antiarmor” mode by extending the spike in the nose.
Country of origin: Germany



RGW90 ASM L1A1
(antistructure)

Caliber: 90mm
Length: 1000mm
Country of origin: Germany



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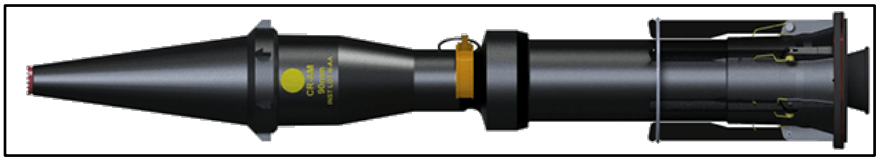
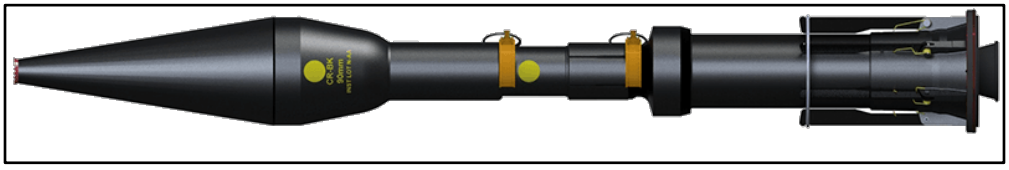
RPG, 90mm



C90-CR-AM(M3)
(HEAT/fragmentation)
Caliber: 90mm
Launcher length: 943/983mm
Rocket length:
INFORMATION NEEDED
Country of origin: Spain



C90-CR-BK(M3)
(antibunker)
Caliber: 90mm
Launcher length: 943/983mm
Rocket length:
INFORMATION NEEDED
Country of origin: Spain

C90-CR-RB(M3)
(HEAT)
Caliber: 90mm
Launcher length: 943/983mm
Rocket length:
INFORMATION NEEDED
Country of origin: Spain

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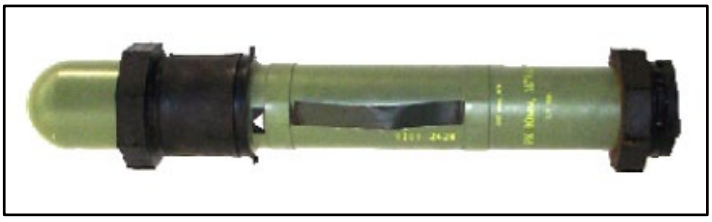
RPG, 90mm

M79A
(HEAT)
Diameter: 90mm

Length: 672mm
Country of origin: Serbia



M79 "Osa"
Caliber: 90mm
Country of origin: Serbia

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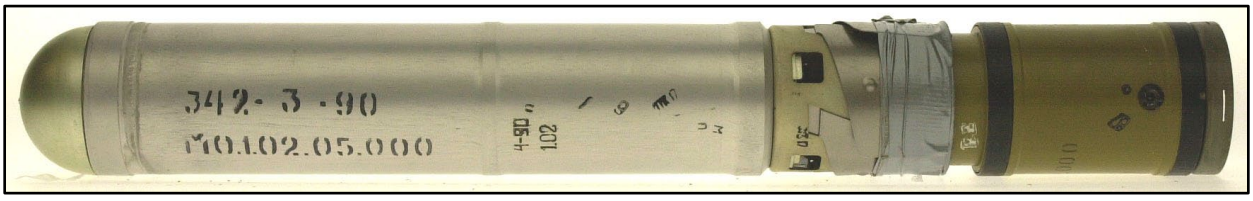
RPG, 93mm

RPO-A
(thermobaric)
Diameter: 93mm
Length of projectile: 548mm
Length with cartridge: 920mm
Country of origin: russia

Launch Motor



PG-7T
(tandem HEAT)
Diameter:
Front warhead: 50mm
Rear warhead: 93mm

Length: 990mm
Country of origin: Bulgaria

RPG-7 Series

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RPG, 93mm

RPV-16
(thermobaric)
Caliber: 93mm
Length of projectile:
INFORMATION NEEDED
Length with cartridge:
INFORMATION NEEDED
Launcher length: 924mm
Country of origin: Ukraine

[Launch Motor]

PG-7VL and PG-7L
(HEAT)

Diameter: 93mm
Length: 950mm
Country of origin: USSR

[RPG-7 Series]

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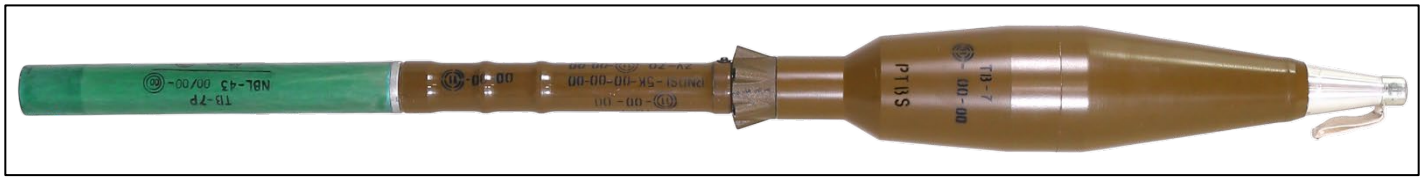
RPG, 93mm

TBG-7L / TBG-7VL "Don"
(thermobaric)
Diameter: 93mm
Length: **INFORMATION NEEDED**
Country of origin: russia

RPG-7 Series



TB-7 / TB-7V
(thermobaric)
Diameter: 93mm

Unfired length: 903mm
Fired length: 630mm
Country of origin: Bulgaria

RPG-7 Series

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RPG, 103mm

GTB-7S
(thermobaric)
Diameter: 103mm
Fired length: 883mm
Country of origin: Bulgaria

RPG-7 Series

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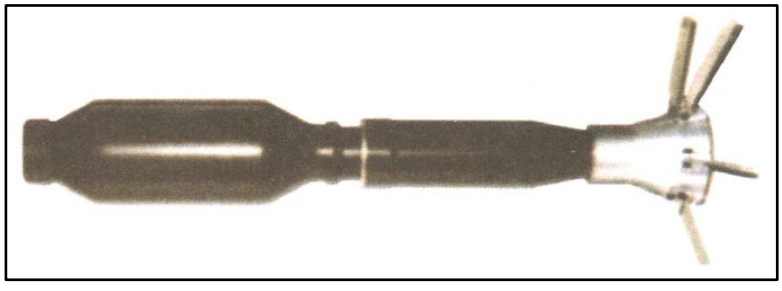
RPG, 105mm

TBG-7V (thermobaric)
Diameter: 105mm
Unfired length: 900mm
Country of origin: russia

RPG-7 Series



RShG-1 "Tavolga-1"
(thermobaric)
Caliber: 105mm
Launcher length: 1135mm
Rocket length: 625mm
Country of origin: russia

PG-7VR
(tandem HEAT)

Diameter:
Front warhead: 64mm
Rear warhead: 105mm

Unfired length: ~1245mm
Country of origin: russia

RPG-7 Series

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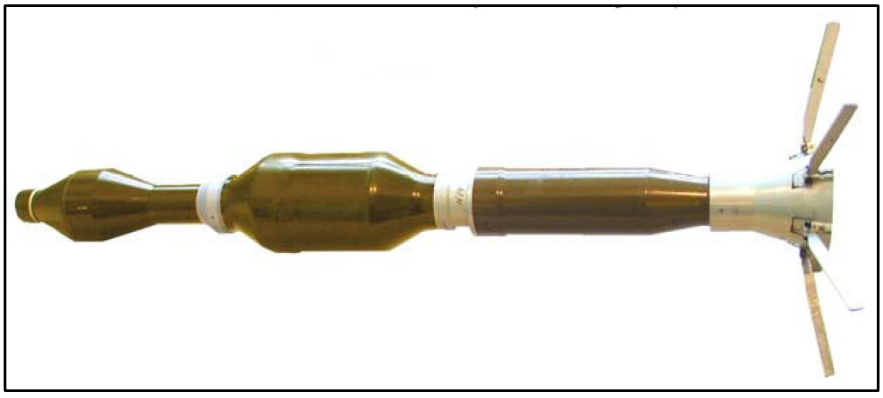
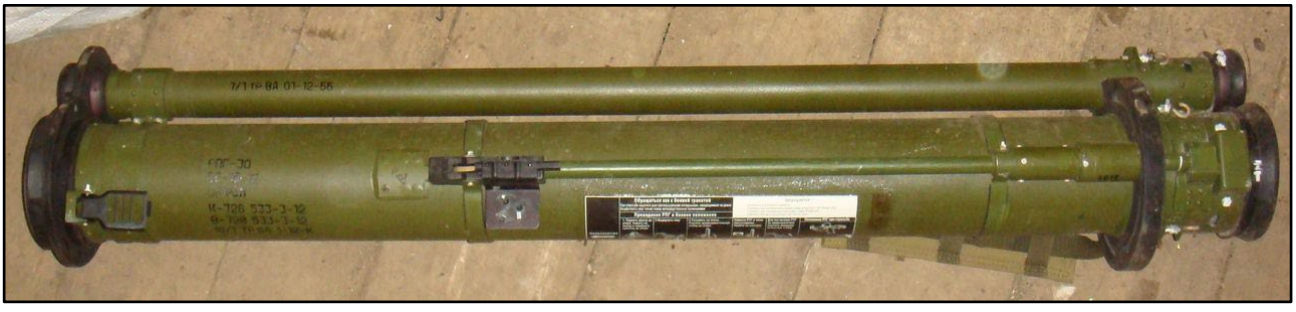
RPG, 105mm



RMG "Skid"
(tandem HEAT)

Diameter:
Front warhead: 84mm
Rear warhead: 105mm
Length of launcher: 1000mm
Length of rocket: **INFORMATION NEEDED**
Country of origin: russia



RPG-30 "Hook"
(tandem HEAT with decoy)

Diameter:
Primary rocket (PG-30): 105mm
Decoy rocket (IG-30): 42mm
Launcher length: 1135mm
Length PG-30: **INFORMATION NEEDED**
Length IG-30: **INFORMATION NEEDED**
Country of origin: russia

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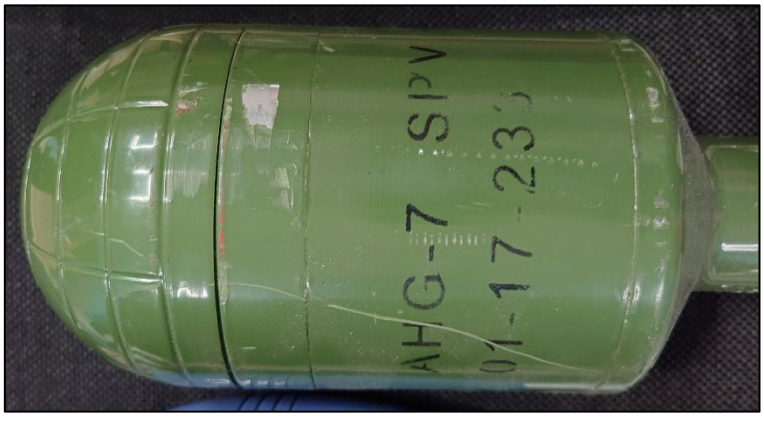
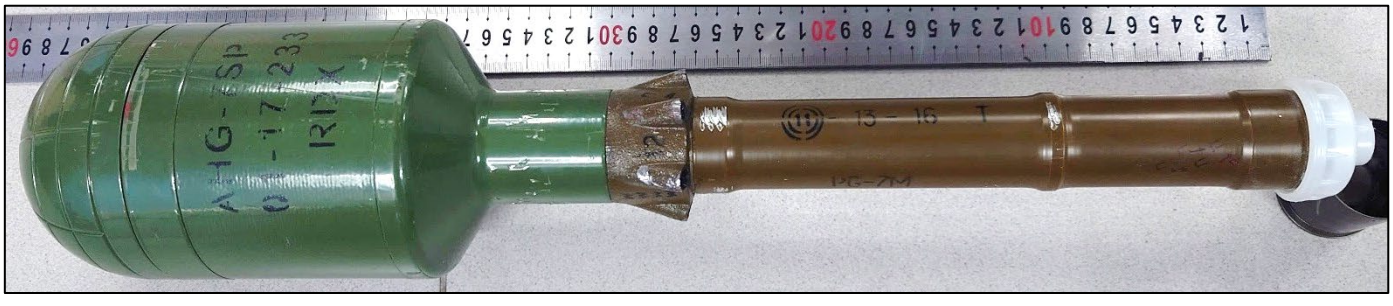
RPG, 105mm

TBG-29V
(thermobaric)
Diameter: 105mm
Length: 695mm
Country of origin: russia



AHG-7SP / AHG-7 SPV
(multiple EFP warhead)
Diameter: 105mm
Fired length: ~560mm
Country of origin: Bulgaria

RPG-7 Series



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RPG, 106-125mm

RTB-7MA / GTB-7MA
(thermobaric)

Diameter: 106mm
Length: **INFORMATION NEEDED**
Note: Uses the AF72 and AF76 PD fuzes.
Country of origin: Bulgaria

RPG-7 Series

Panzerfaust 3-IT / DM72A1
(HEAT)

Caliber: 60mm
Diameter of the warhead: 110mm

Unfired length: 1223mm
Fired length: **INFORMATION NEEDED**
Country of origin: Germany

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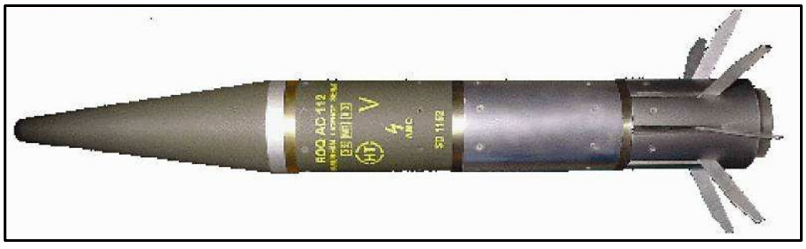
RPG, 106-125mm

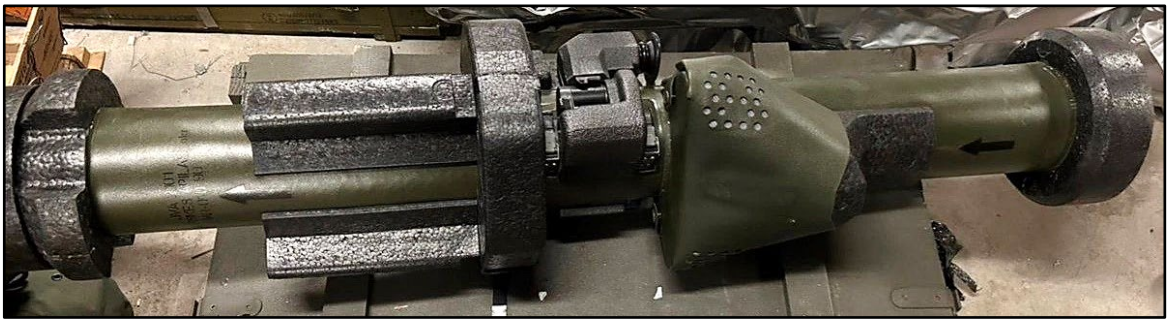
Bunkerfaust / DM32
(antistructure)

Caliber: 60mm
Diameter of warhead: 110mm
Unfired length: 1220/1270mm
Fired length: **INFORMATION NEEDED**
Country of origin: Germany



APILAS
(HEAT)

Caliber: 112mm
Launcher length: 1260mm
Rocket length: 925mm
Country of origin: France



PG-28 “Cranberry-1”
(tandem HEAT)

Diameter:
Front warhead: **INFORMATION NEEDED**
Rear warhead: 125mm
Launcher length: 1200mm
Rocket length: **INFORMATION NEEDED**
Country of origin: russia

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Guided Missiles

Guided missiles are munitions whose flight path can be adjusted after launch by the operator's commands, or which can be self-guided using their sensors and internal electronics. A good visual indicator is several pairs of wings and the ratio of the number of on-board control and guidance equipment to its dimensions.

Another general rule of thumb is that if a rocket looks very expensive, it's probably a guided missile.

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Guided Missiles (Air-to-Air)

An air-to-air guided missile is a type of guided missile designed to destroy enemy aircraft or UAVs that are in flight. They may achieve this by directly impacting with their targets, using sensors to detonate in close proximity, or both.

Some air-to-air missiles have been modified to be fired from ground platforms in an air defence role; their external characteristics may not be different although changes to internal electronics and programming have been made. If an air defence variant is more commonly encountered than the air-to-air one, it will be found in the Surface-to-Air Guided Missiles section instead of here.

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Guided Missiles (Air-to-Air)

R-27R
(HE-frag)
Diameter of body: 230mm
Length: 4.08m
Wingspan: 770mm
Country of origin: russia

R-37M
(HE-frag)
Diameter of body: 380mm
Length: 4.06m

Wingspan: 720mm
Tailspan: 1020mm
Country of origin: russia

R-40 / K-40
(HE-frag)
Diameter: 310mm
Length: 6.23m
Wingspan: 1.4m
Country of origin: USSR

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Guided Missiles (Air-to-Air)

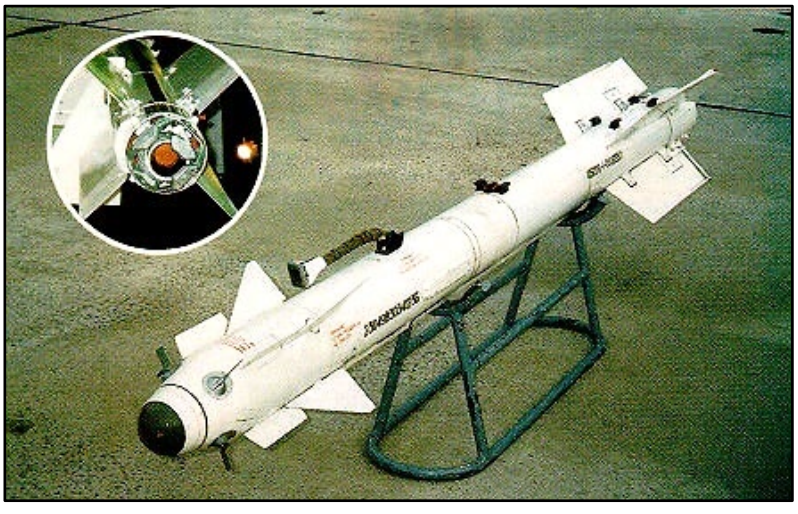
R-60
(HE-frag)
Diameter of body: 120mm
Length: 2.09m
Wingspan: 390mm

Note: Some warhead models contain depleted uranium.
Country of origin: USSR

Shahed-136 / Geran-2 Series

R-73
(HE-frag)
Diameter of body: 170mm
Length: 2.9m
Wingspan: 510mm

Note: Some warhead models contain depleted uranium.
Country of origin: russia



R-77
(HE-frag)
Diameter of body: 200mm
Length: 3.6m

Wingspan: 454mm
Tailspan: 750mm
Country of origin: russia

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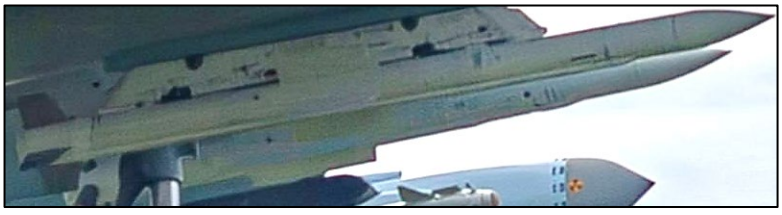
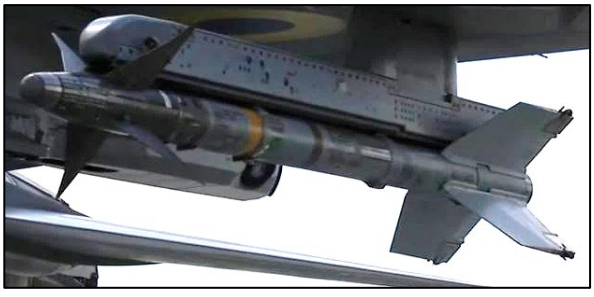
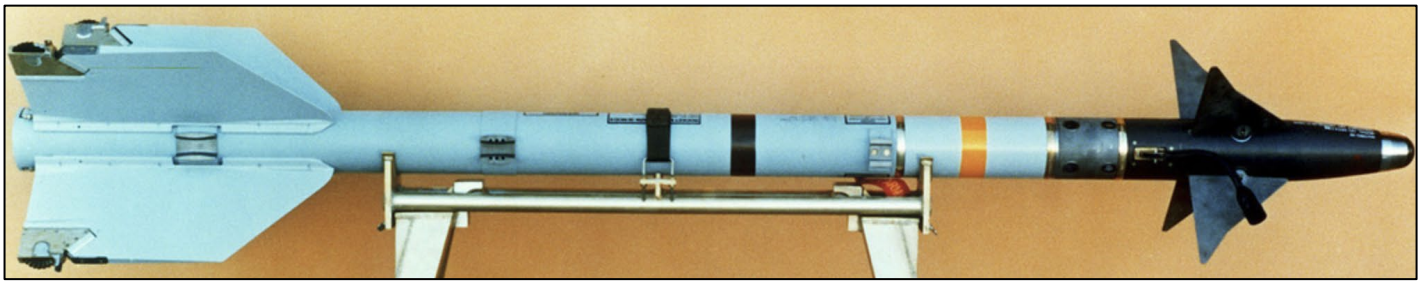
Guided Missiles (Air-to-Air)

R-77M / Object 180 (K-77)
(HE-frag)
Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Wingspan: **INFORMATION NEEDED**
Country of origin: russia



AIM-9M
(HE-frag)
Diameter of body: 127mm
Length: 2.87m
Wingspan: 566mm
Tailspan: 630mm
Country of origin: USA

AIM-9X
(HE-frag)
Diameter of body: 127mm
Length: 3.02m
Wingspan: 353mm
Tailspan: 445mm
Country of origin: USA

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Guided Missiles (Air-to-Air)

R550 Magic 2
(HE-frag)
Diameter of body: 157mm
Length: 2.75m
Wingspan: 660mm
Country of origin: France

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Guided Missiles (Air-to-Surface)

Air-to-surface (air-to-ground) missiles are guided missiles launched from aircraft or UAVs while in flight, designed to engage targets on the surface of the earth. This may include targets on the surface of the water, such as ships, as well as sub-surface targets such as underground bunkers and fortifications.

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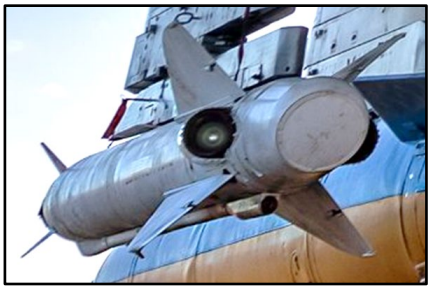
Guided Missiles (Air-to-Surface)



Kh-25
(HE-frag)
Diameter of body: 275mm
Length: 3.57m
Wingspan: 820mm
Country of origin: USSR

Note: the missile contains two warheads, one in the front of the missile (F25-1M) and the other in the tail, behind the rocket engine (F25-2M).

Kh-25ML
(tandem EFP)
Diameter of body: 275mm
Length: 3.705m
Wingspan: 755mm
Country of origin: USSR

Kh-29 Series
(HE penetrator)
Diameter of body: 380mm
Length: 3875mm
Wingspan: 1100mm
Tailspan: 750mm
Country of origin: USSR

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Guided Missiles (Air-to-Surface)

Kh-31P
(HE-frag)
Diameter of body: 360mm
Length: 4.7m
Wingspan: 914mm
Country of origin: russia

Kh-38 Series
(HE-frag or penetrator warhead)
Diameter of body: 310mm
Length: 4.2m

Wingspan: 1.14m
Country of origin: russia

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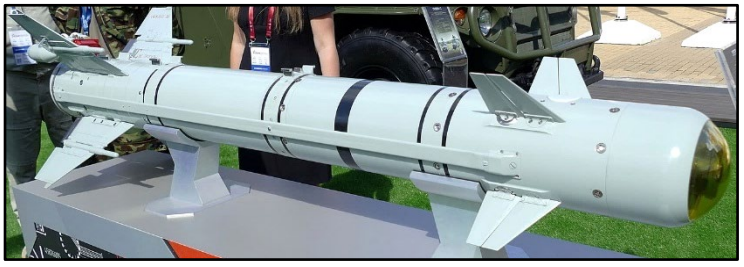
Guided Missiles (Air-to-Surface)

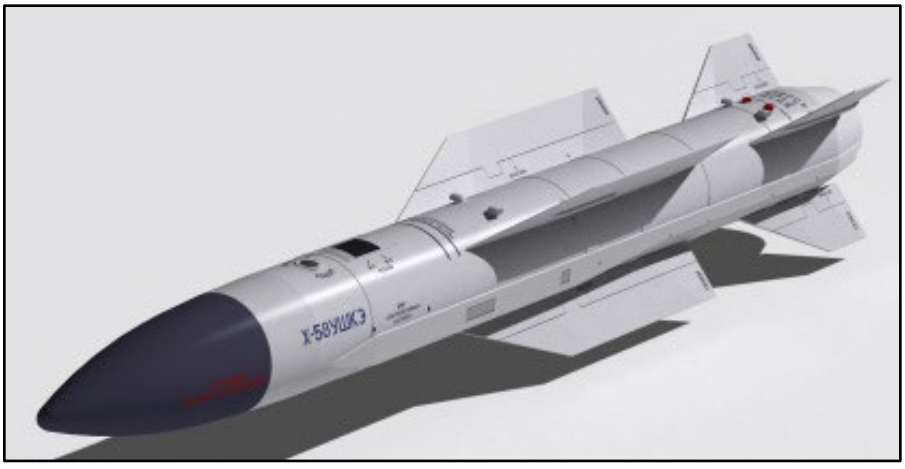


Kh-39 / Product-305
(HE-frag)

Diameter of body: 200mm
Length: 1.945m
Note: A mockup version is pictured above; the live version, pictured on the right, is not marked with a thick black band in its center.
Country of origin: russia

Kh-58U
(HE-frag)

Diameter of body: 380mm
Length: 4.813m
Wingspan: 1170mm
Country of origin: russia/Ukraine



Kh-58UShKE
(HE)
Diameter of body: 380mm
Length: 4.19m
Wingspan: 800mm
Country of origin: russia

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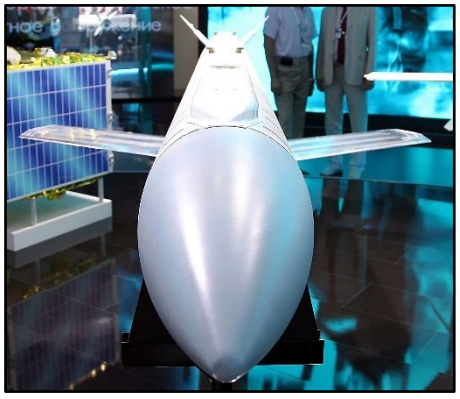
Guided Missiles (Air-to-Surface)

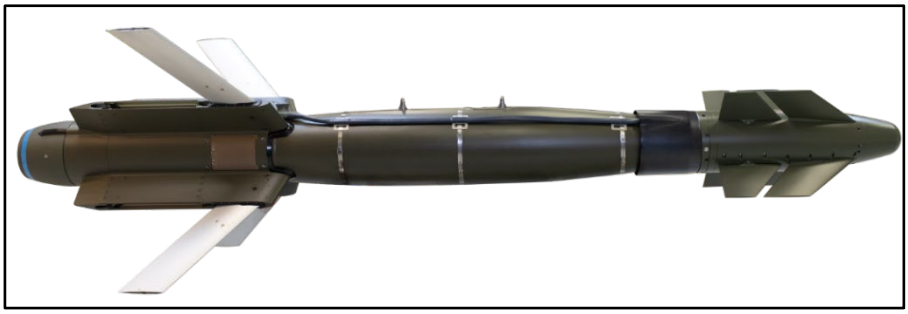
Grom-E1
(HE-frag)
Diameter of body: 310mm
Length: 4.2m

Wingspan: 1.9m
Country of origin: russia



9M127-1 Whirlwind-1
(tandem HEAT)
Diameter of body: 138mm
Length: 2.765m
Wingspan: **INFORMATION NEEDED**
Country of origin: russia

AGM-88B HARM
(HE-frag)
Diameter of body: 254mm
Length: 4.17m
Wingspan: 1.12m
Tailspan: 610mm
Country of origin: USA



AASM Hammer
(HE-frag)
Diameter of body: **INFORMATION NEEDED**
Length: 3m
Tailspan: **INFORMATION NEEDED**
Country of origin: France

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Guided Missiles (Surface-to-Air)

A surface-to-air missile is a guided missile designed to hit targets above the surface of the earth. This may include but is not limited to: airplanes, helicopters, airships, balloons, aviation ammunition, other guided missiles, large artillery rockets, and UAVs.

Many surface-to-air missiles are part of a larger anticraft complex or system, and the names of these complexes have also been included where appropriate. Some surface-to-air missiles and their launchers are smaller, man-portable and can be carried and operated by a single person. Others are extremely large in size and may have multiple rocket motors (stages) in order to increase their speed and the maximum altitude which they can engage targets at.

Some air-to-air missiles have been modified to be fired from ground platforms in an air defence role; their external characteristics may not be different although changes to internal electronics and programming have been made. If the air-to-air variant is more commonly encountered than the surface-to-air one, it will be found in the Air-to-Air Guided Missiles section instead of here.

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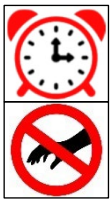
Guided Missiles (Surface-to-Air)

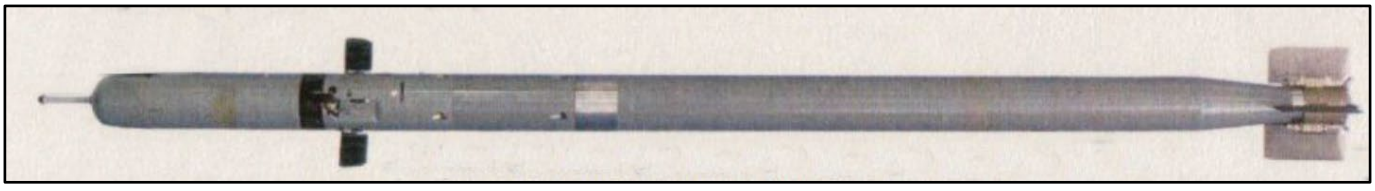
Strela-2 (9K32/9M32) and Strela-2M (9K32M/9M32M)
NATO: SA-7A, SA-7B "Grail"
(HE-frag)

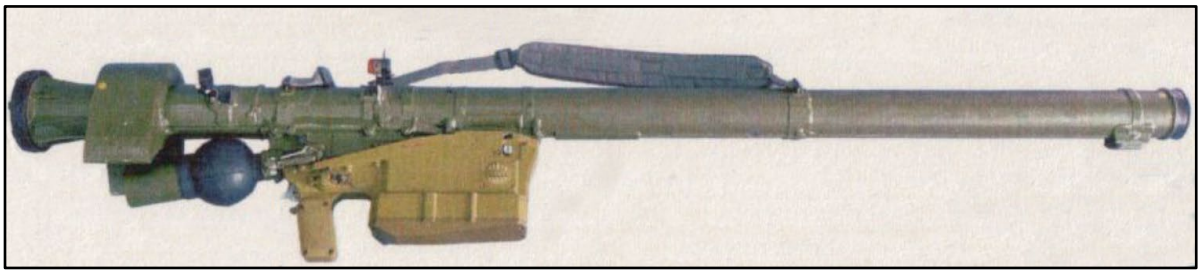
Diameter: 70mm
Length: 1440mm
Length of launcher: 1490mm
Country of origin: USSR



9K38/9M39 Igla
(NATO: SA-18 Grouse)
(HE-frag)

Diameter of missile: 70mm
Length of missile: 1.69m
Length of launcher: 1.71m
Country of origin: russia





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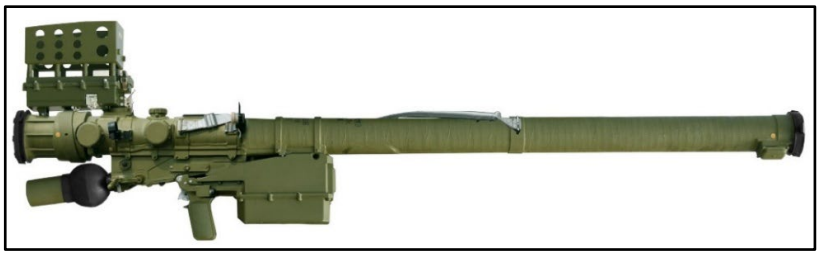
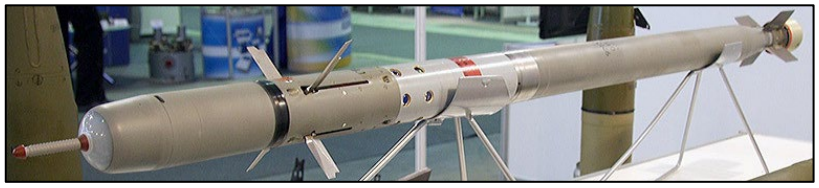
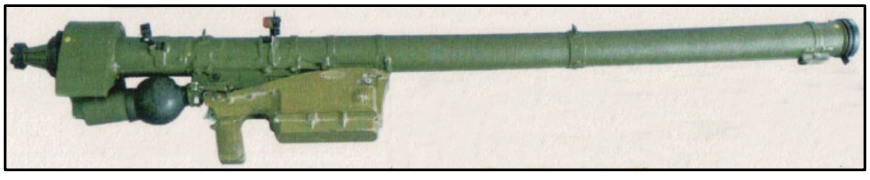
Guided Missiles (Surface-to-Air)



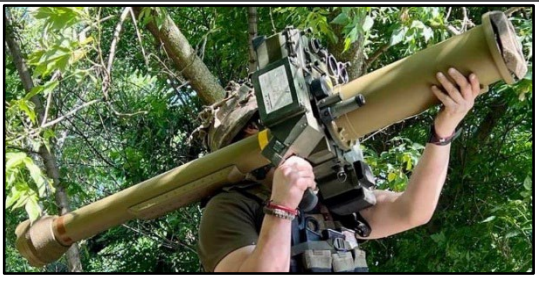


9K333/9M336 Verba
(HE-frag)
Diameter of missile: 72mm
Length of missile: **INFORMATION NEEDED**
Length of launcher: **INFORMATION NEEDED**
Note: The missile pictured on the left is a 9M342 “Igla-S” which is reported to be extremely similar in appearance to the 9M336.
Country of origin: russia

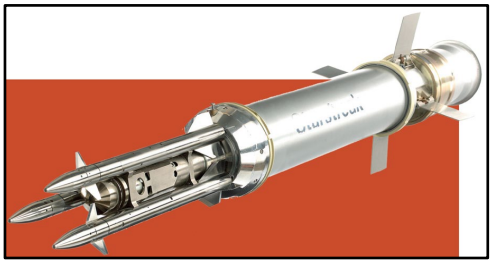
Shahed-136 / Geran-2 Series



9K310/9M313 Igla-1
(HE-frag)
Diameter of missile: 70mm
Length of missile: 1.69m
Length of launcher: 1.7m
Country of origin: russia



Starstreak
(HE-frag)
Length: 1397mm
Diameter: 127mm
Note: Each missile contains 3 smaller missiles which independently seek the target.
Country of origin: UK



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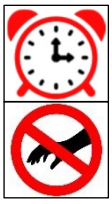
Guided Missiles (Surface-to-Air)

FIM-92 "Stinger"
(HE)

Diameter: 70mm
Length: 1370mm
Length of launcher: 1510mm
Country of origin: USA



[Launch Motor]

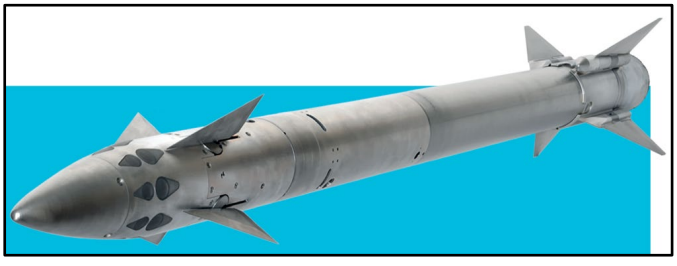
[Battery Coolant Unit]

Sungur
(HE-frag)

Diameter: 82mm
Length: 1.68m
Country of origin: Turkey

Martlet/LMM
(HEAT)

Diameter: 76mm
Length: 1.3m
Country of origin: UK



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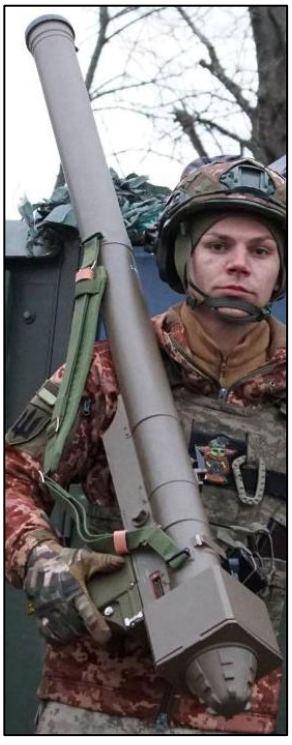
Guided Missiles (Surface-to-Air)

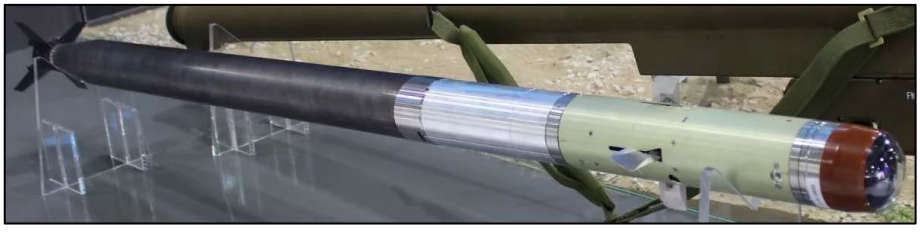


飛弩-6 FN-6
(HE)

Diameter: 72mm
Length of missile: 1495mm
Length of launcher: **INFORMATION NEEDED**
Tailspan: 180mm
Country of origin: China

飛弩-16 FN-16
(HE-frag)

Diameter: 72mm
Length of missile: 1600mm
Length of launcher: 1720mm
Tailspan: **INFORMATION NEEDED**
Country of origin: China



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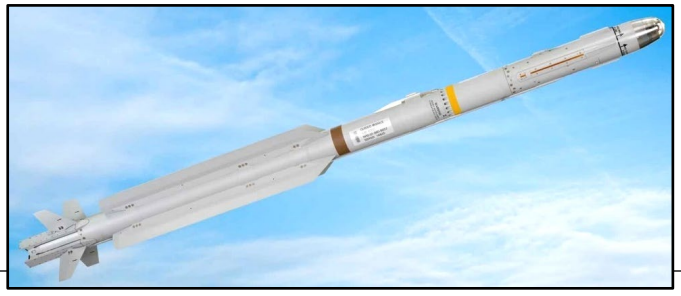
Guided Missiles (Surface-to-Air)

AIM-2000 / IRIS-T
(HE-frag)

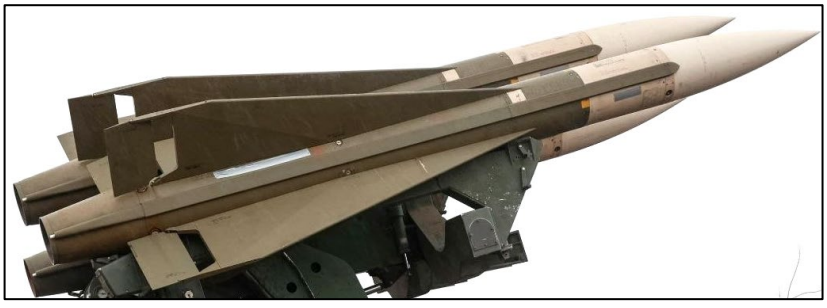
Diameter: 127mm
Length: 2.94m
Wingspan: 450mm
Country of origin: Germany



MIM-23 Series (I-HAWK)
(HE-frag)

Diameter: 356mm
Length: 5.04m
Wingspan: 1.204m

Note: Due to the age of this system, some missiles have been assembled from the components and sections of multiple different models.
Country of origin: Spain, USA



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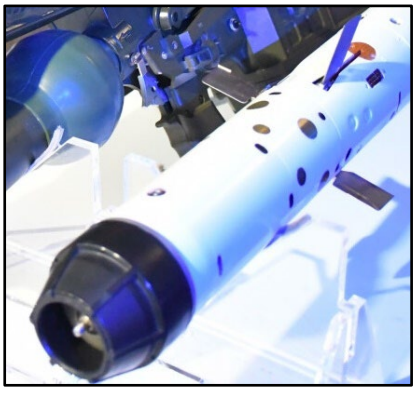
Guided Missiles (Surface-to-Air)

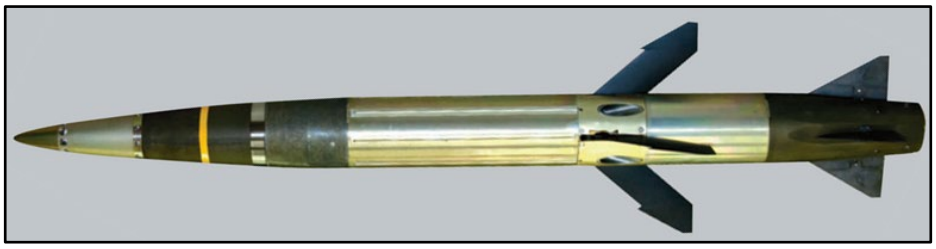
PPZR Piorun
(HE-frag)

Diameter: 72mm
Length: ~1.6m
Country of origin: Poland



RB 70 (RBS 70)
(HEAT)

Diameter: 110mm
Length: 1320mm
Wingspan: 320mm
Country of origin: Sweden



[Launch Motor]

Mistral
(HE-frag)

Diameter: ~92mm
Length: 1.86m
Wingspan: 200mm
Country of origin: France

[Launch Motor]

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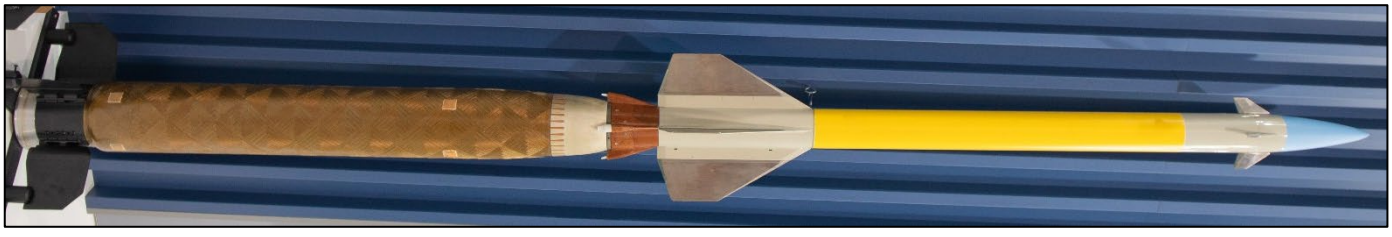
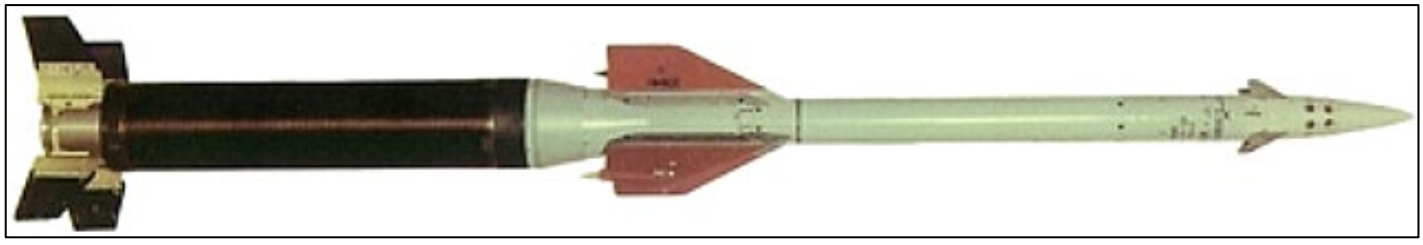
Guided Missiles (Surface-to-Air)

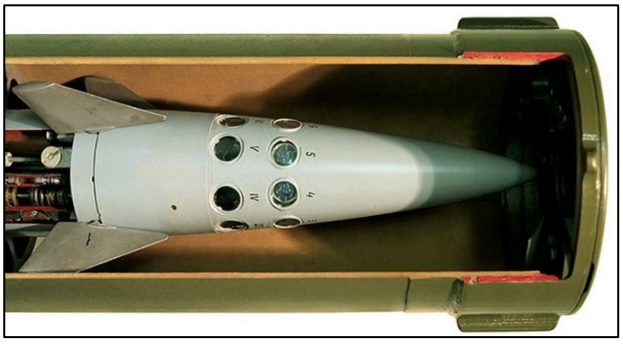
19Ya6 (TKB-1055)
(fragmentation)
Diameter: **INFORMATION NEEDED**
Total length: **INFORMATION NEEDED**
Country of origin: russia

57E6/95Ya6
(HE-frag)
Diameter: 90/170mm
Total length: 3160mm
Note: This is a two-stage missile. The first stage is the 95Я6 rocket motor. The second stage is the 57Э6 missile, which includes the warhead and fuzing.
Country of origin: russia





9M311 Series
(HE-frag)
Diameter: 76/152mm
Total length: 2500mm
Note: This is a two-stage missile.
Country of origin: russia



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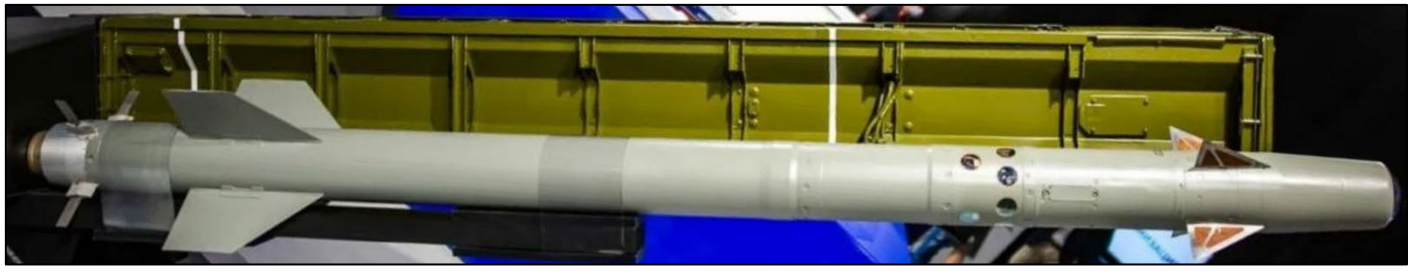
Guided Missiles (Surface-to-Air)

Strela-1 (9K31/9M31) and Strela-1M (9K31M9M31M)
(HE-frag)
Diameter: 120mm
Length: 1.803m
Wingspan: 360mm
Note: The bottom picture on the left is a training model.
Country of origin: USSR

9M37/9M37M
(HE-frag)
Diameter: 120mm
Length: 2190mm
Wingspan: 360mm
Country of origin: russia

9M333
(HE-frag)
Diameter: 120mm
Length: 2223mm
Wingspan: 360mm
Country of origin: russia



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Guided Missiles (Surface-to-Air)

9M38/9M38M1 Buk/Buk-M1
(HE-frag)
Diameter of body: 400mm
Length: 5500mm
Wingspan: 702mm
Tailspan: 860mm
Country of origin: USSR

9M317 Buk-M2
(HE-frag)
Diameter of body: 400mm
Length: 5550mm
Wingspan: 860mm
Tailspan: **INFORMATION NEEDED**
Country of origin: russia

9M33/9M33M
Osa/Osa-M Series
(HE-frag)
Diameter of body: 206mm
Length: 3158mm
Tailspan: 650mm
Country of origin: USSR

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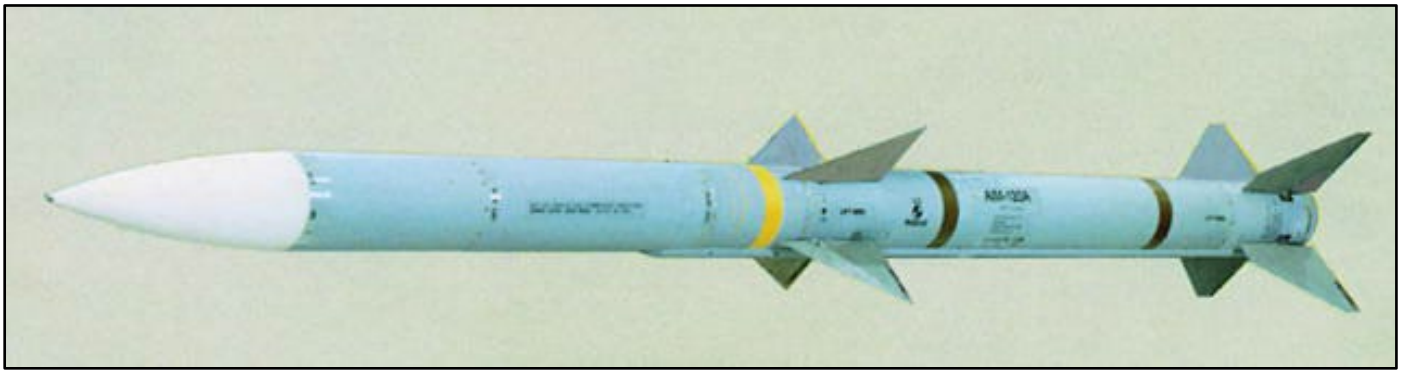
Guided Missiles (Surface-to-Air)

AIM-120 NASAMS Series
(HE-frag)

Diameter of body: 178mm
Length: 3.66m
Wingspan: 533mm
Note: This is an air-to-air missile adopted for air defense (ground-to-air).
Country of origin: USA



AIM-132 ASRAAM
(HE-frag)

Diameter of body: 166mm
Length: 2.9m
Wingspan: 450mm
Note: This is an air-to-air missile adopted for air defense (ground-to-air).
Country of origin: UK

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Guided Missiles (Surface-to-Air)

3M9 Kub Series
(HE-frag)
Diameter: 330mm
Length: 5.8 m
Tailspan: 1245mm

Note: These missiles use the 3N12 and 3N12M warheads.
Country of origin: Czech Republic, Slovakia

9M330/9M331 Tor/Tor-M1
(HE-frag)
Diameter of body: 235mm
Length: 2898mm
Wingspan: 650mm
Finspan: 530mm
Country of origin: russia

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Guided Missiles (Surface-to-Air)

5V27 Series (S-125)
(HE-frag)

Diameter of first stage: 552mm
Diameter of second stage: 379mm
Length: 5948mm
Tailspan: 1220mm
Country of origin: USSR, Poland

5V28 Series (S-200)
(HE-frag)

Diameter: 860mm
Length: 10.8m
Wingspan: 2.85m
Note: These are liquid-fueled missiles which use highly toxic and corrosive inhibited red fuming nitric acid (IRFNA).
Country of origin: USSR, Ukraine

48N6/48N6E2 (S-300 and S-400)
(HE-frag)

Diameter: 519mm
Length: 7.5 m
Tailspan: 1134mm
Country of origin: USSR

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Guided Missiles (Surface-to-Air)

9M82 (S-300)
(HE-frag)
Diameter: 850mm
Length: 10 m
Country of origin: russia

9M83 (S-300)
(HE-frag)
Diameter: 500mm
Length: 7.5 m
Country of origin: russia

5V55 Series (S-300)
(HE-frag)
Diameter of body: 508mm
Length: 7.25 m
Tailspan: 1124mm
Note: Normally used with the 5Zh92 or 5Zh93 warhead.
Country of origin: USSR

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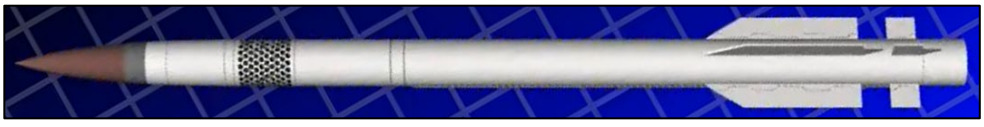
Guided Missiles (Surface-to-Air)

PAC-2 GEM (Patriot)
(HE-frag)

Diameter: 410mm
Length: 5.31m
Tailspan: 840mm
Country of origin: USA



PAC-3 CRI (Patriot)
(HE-frag)

Diameter: 255mm
Length: ~5.2m
Wingspan: **INFORMATION NEEDED**
Finspan: 480mm
Note: All «PAC-3» missiles contain a small warhead located forward of the rocket motor section.
Country of origin: USA

PAC-3 MSE (Patriot)
(HE-frag)

Diameter: 297mm
Length: ~5.2m
Wingspan: **INFORMATION NEEDED**
Finspan: 440mm
Note: All «PAC-3» missiles contain a small warhead located forward of the rocket motor section.
Country of origin: USA

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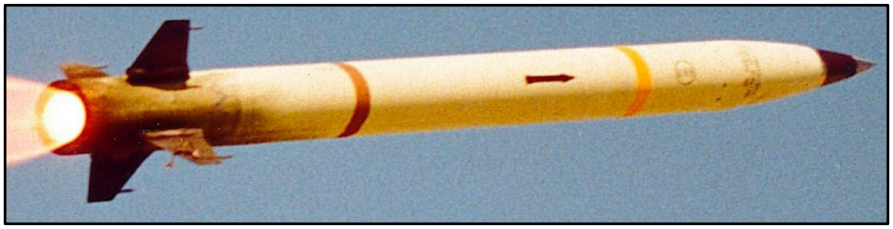
Guided Missiles (Surface-to-Air)



VT1 (Crotale-NG)
(HE-frag)
Diameter of body: 165mm
Length: 2.35m
Wingspan: **INFORMATION NEEDED**
Country of origin: France

RIM-7 Sea Sparrow Series
(HE-frag)
Diameter of body: 203mm
Length: 3.64m
Wingspan: 1000mm
Country of origin: USA

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Guided Missiles (Antitank)

Antitank missiles are guided missiles primarily designed to destroy enemy ground vehicles. They may be fired from other vehicles, man-portable systems, helicopters, airplanes, or large UAVs. Many modern antitank missiles also have the ability to target stationary objects, such as buildings, and low-flying aircraft such as helicopters. The majority of these missiles achieve destruction of their targets through a shaped charge warhead. Some possess multiple (tandem) shaped charge warheads in order to defeat reactive armor.

If a guided missile possesses a warhead that is not antitank in nature, such as thermobaric, but is launched from an antitank missile system and shares characteristics with that system's antitank ammunition, it has been placed in this section in order to be found easier.

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Guided Missiles (Antitank)

9M111 and 9M111-2 "Fagot"
(HEAT)

Diameter: 120mm
Fired length: 863mm
Tailspan: 369mm

Note: Uses the 9N122 warhead.
Country of origin: russia

9M111M "Fagot-M"
(HEAT)

Diameter: 120mm
Fired length: 863mm
Tailspan: 369mm

Note: Uses the 9N122M warhead.
Country of origin: russia

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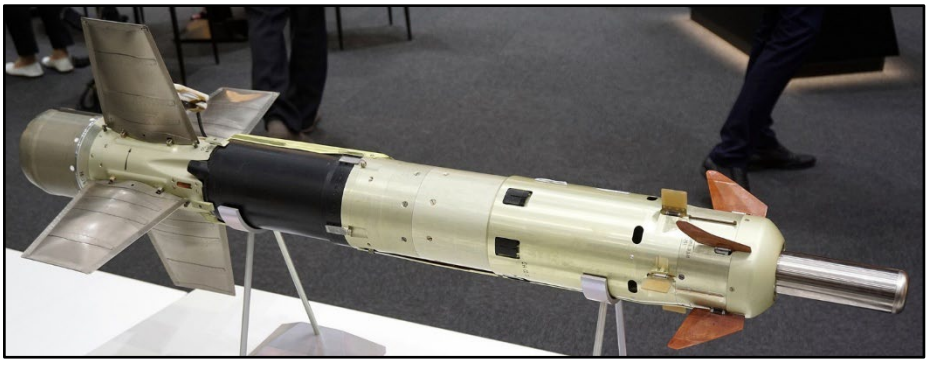
Guided Missiles (Antitank)

9M113 Konkurs
(HEAT)
Diameter: 135mm
Wingspan: 468mm
Length: 955mm
Country of origin: russia

Launch Motor



9M113M Konkurs-M
(tandem HEAT)
Diameter: 135mm
Length: 1.15m
Wingspan: 468mm
Note: Contains a tandem warhead which may or may not be protruding.
Country of origin: russia

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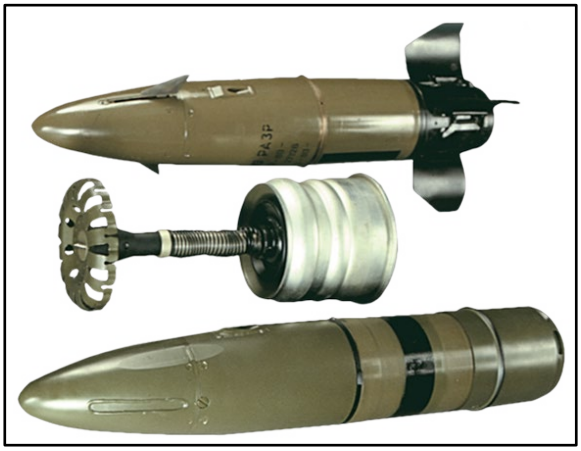
Guided Missiles (Antitank)

9M117M1-3 "Arkan"
(tandem HEAT)
Diameter: 100mm
Unfired length: 1035mm
Country of origin: USSR/russia

9M117M-02
(tandem HEAT)
Diameter: 100mm
Unfired length: 1205mm
Note: Uses the 9N136M warhead.
Country of origin: USSR/russia

9M119M "Reflex-M"
(tandem HEAT)
Unfired diameter: 125mm
Unfired length: 700mm
Fired length: ~680mm
Tailspan: 265mm
Country of origin: russia



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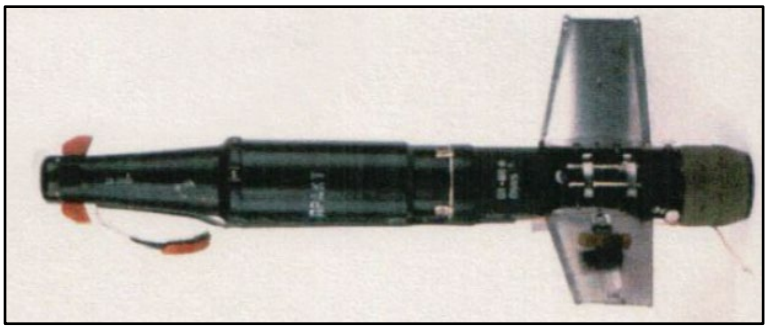
Guided Missiles (Antitank)



9M115/9M116 "Metis"
(HEAT)
Diameter: 93mm
Length: 730mm
Tailspan: 370mm
Note: The launch tube is labeled 9M115, the missile itself is labeled 9M116.
Country of origin: USSR

9M131F "Metis-M"
(thermobaric)
Diameter: 130mm
Length: 920mm
Country of origin: USSR

9M133-1, 9M133F and 9M133F-1 "Kornet"
(tandem HEAT or thermobaric)
Diameter: 152mm
Length: 1200mm
Country of origin: USSR

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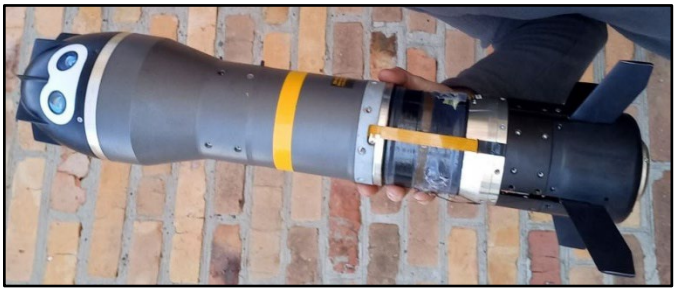
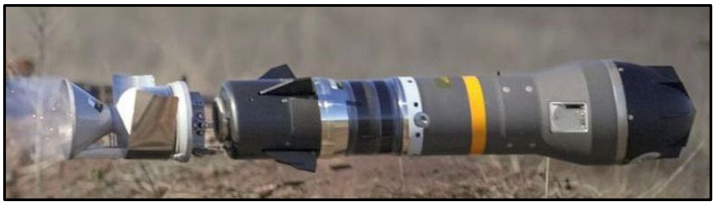
Guided Missiles (Antitank)



NLAW
(HEAT)

Diameter: 115mm
Diameter of the warhead: 150mm
Length: **INFORMATION NEEDED**
Length of launcher: 1016mm
Country of origin: UK



Milan-2
(HEAT)

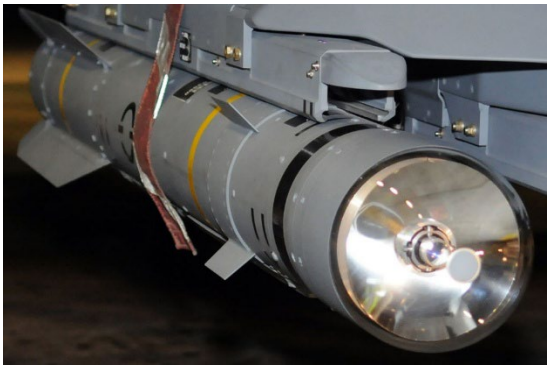
Diameter: 115mm
Length: 893mm
Wingspan: 265mm
Country of origin: France

AKERON MP
(tandem HEAT)

Diameter: 140mm
Length: **INFORMATION NEEDED**
Country of origin: France

Brimstone and Brimstone-2
(tandem HEAT)

Diameter: 180mm
Length: 1.8m
Country of origin: UK



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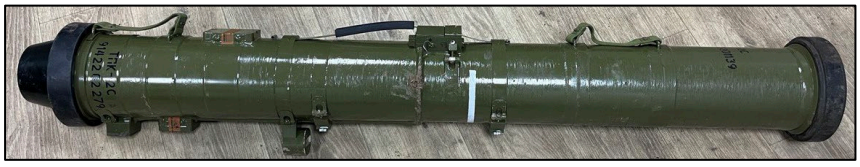
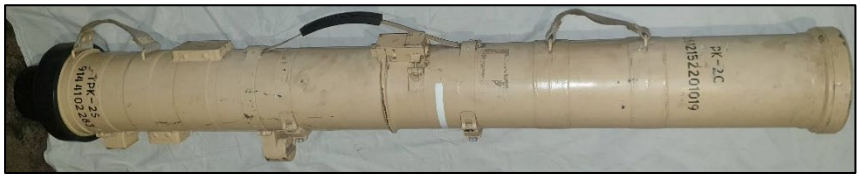
Guided Missiles (Antitank)

R-2S (Stugna-P / Skif)
(tandem HEAT)
Diameter of the warhead: 130мм
Length of rocket: 1091 mm
Diameter of transport-launcher TPK-2S: 140mm
Length of transport-launcher TPK-2S: 1360mm
Country of origin: Ukraine

Launch Motor

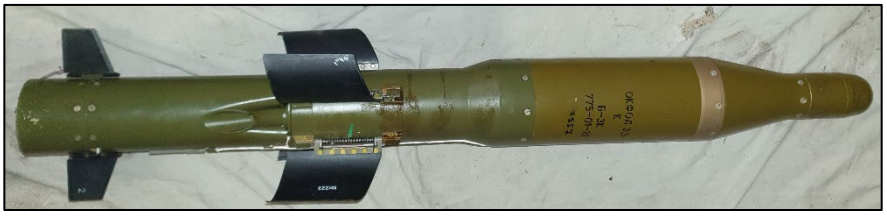


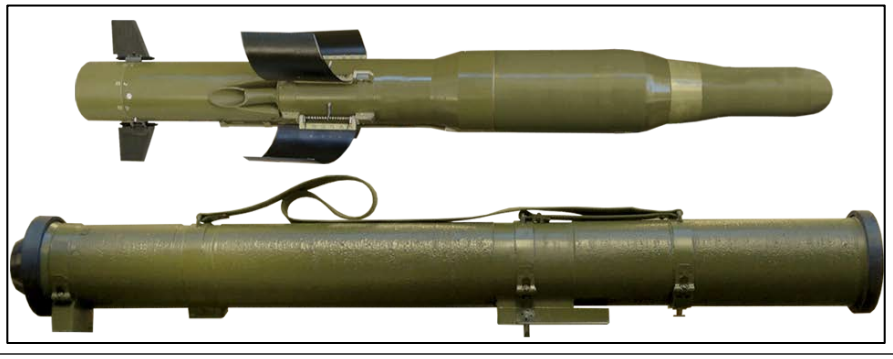


Korsar
(tandem HEAT or HE-frag)
Diameter of the warhead: 107мм
Length of missile: 1022mm
Diameter of TPK-3 transport-launch container: 113mm
Length of TPK-3 transport-launch container: 1180mm

Note: Can use either the R-3K tandem HEAT or R-3OF HE-frag missiles.
Country of origin: Ukraine

Launch Motor





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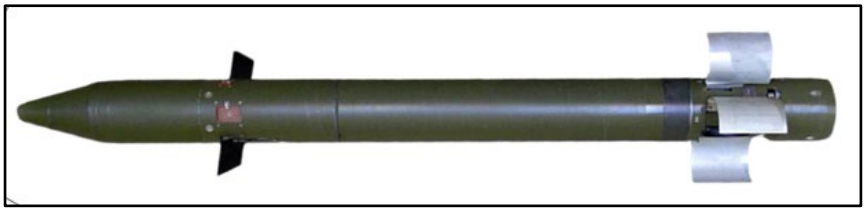
Guided Missiles (Antitank)

RBS-17
(tandem HEAT)

Diameter: 180mm
Length: 1625mm
Wingspan: 362mm
Country of origin: Sweden

RBS-56 BILL
(HEAT)

Diameter: 150mm
Length: 900mm
Country of origin: Sweden



9M120F Ataka
(thermobaric)

Diameter: 130mm
Length: 1830mm
Wingspan: 300mm
Country of origin: russia

Launch Motor

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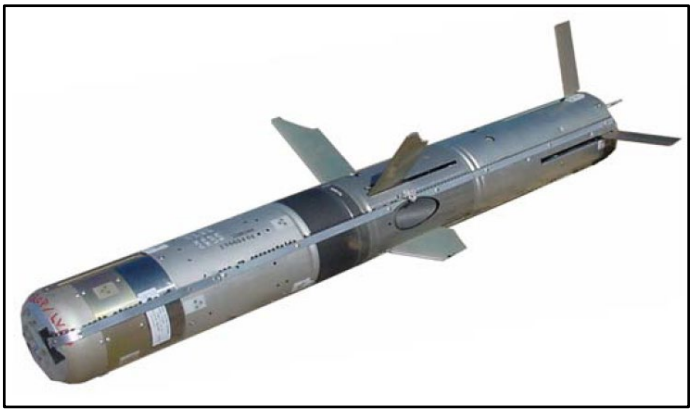
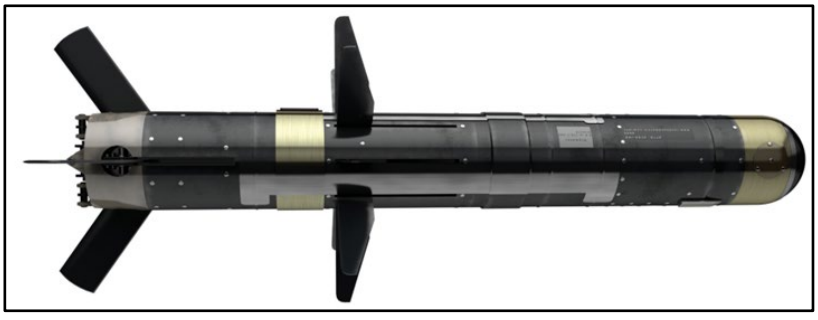
Guided Missiles (Antitank)

BGM-71F / TOW-2B
(EFP)
Diameter: 152mm
Length: 1230mm
Country of origin: USA



BGM-71H-RF / TOW BB RF
(anti-bunker)
Diameter: 147mm
Length: 1212mm
Country of origin: USA

FGM-148 Javelin
(tandem HEAT)
Diameter: 127mm
Length: 1083mm
Country of origin: USA



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Guided Missiles (Antitank)

9M14P1 “Malyutka”
(HEAT)

Diameter: 125mm
Length: 860mm

Tailspan: 393mm
Note: Uses the 9N110M2 warhead.
Country of origin: russia

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Guided Missiles (Surface-to-Surface)

In general terms, surface-to-surface missiles are used for precision strikes launched from the surface of the earth aimed at targets also on the surface. This section contains those missiles that are not more readily categorized in other ways.

Surface-to-surface missiles with a primarily antitank role can be found in the Guided Missiles (Antitank) section.

Large, long-distance Cruise Missiles and Ballistic Missiles will be found in those sections.

Surface-to-surface missiles launched primarily from Multiple Launch Rocket Systems may be found in that section instead, as they are more commonly associated with those unguided rocket systems even though they are guided.

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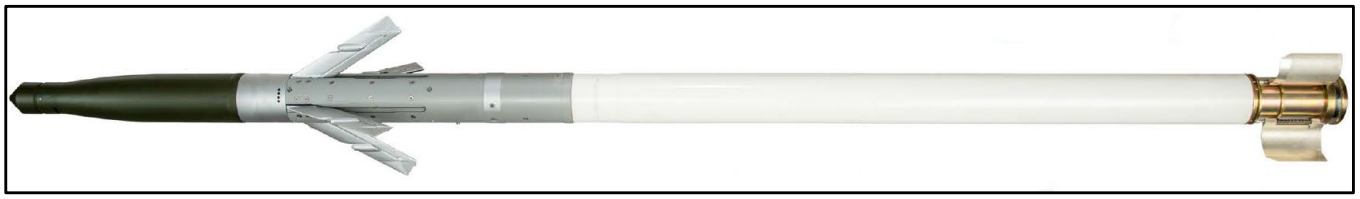
Guided Missiles (Surface-to-Surface)

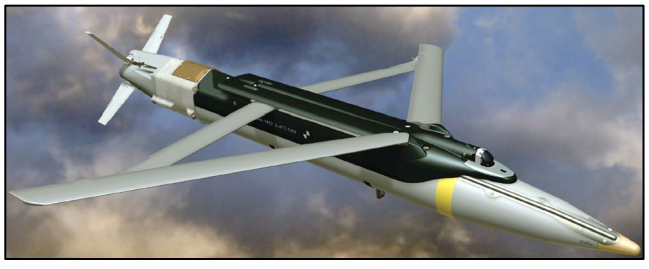


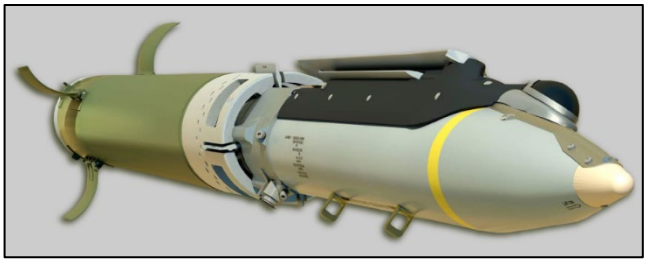
70mm APKWS

Length with M151 warhead and M423 fuze: 1905mm
Note: This module converts 70mm Hydra-70 rockets into laser-guided missiles. It can be used with several different warhead and fuze combinations.
Country of origin: USA

GLSDB
(HE-frag penetrator)

Diameter: 240mm
Total length: 3.91m
Wingspan: 1607mm
Note: This is a GBU-39/B SDB guided bomb modified into a surface-to-surface guided missile. The SDB section is designed to separate from the rocket motor during flight.
Country of origin: USA





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Guided Missiles (Surface-to-Surface)

TRLG-230
(HE-frag)
Diameter: 230mm
Length: **INFORMATION NEEDED**
Country of origin: Turkey

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Guided Missiles (Cruise Missiles)

Cruise missiles are long-range missiles designed to hit targets on the surface of the earth with high degrees of accuracy. They fly at relatively constant speeds for most of their flight and rely upon aerodynamic forces for lift, although some may use booster or launch motors initially to lift free of their launch platforms (particularly submarine and ship-based cruise missiles). Most can fly at extremely low altitudes along the contours of the earth's terrain, making them difficult to detect.

Some cruise missiles use the same rocket motors and other components as ballistic missiles, and it is recommended to check both sections when attempting identification.

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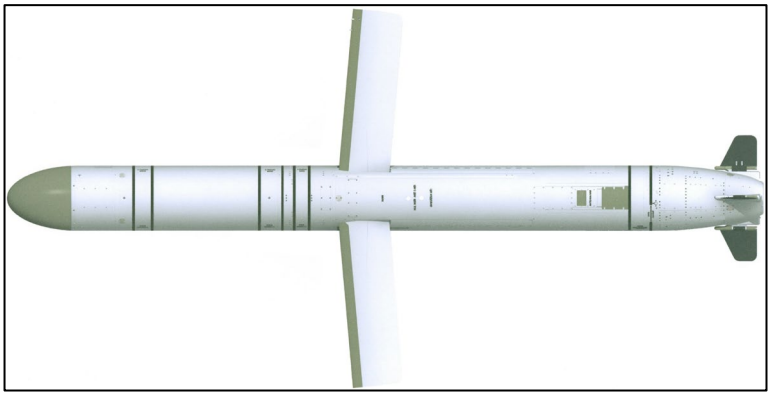
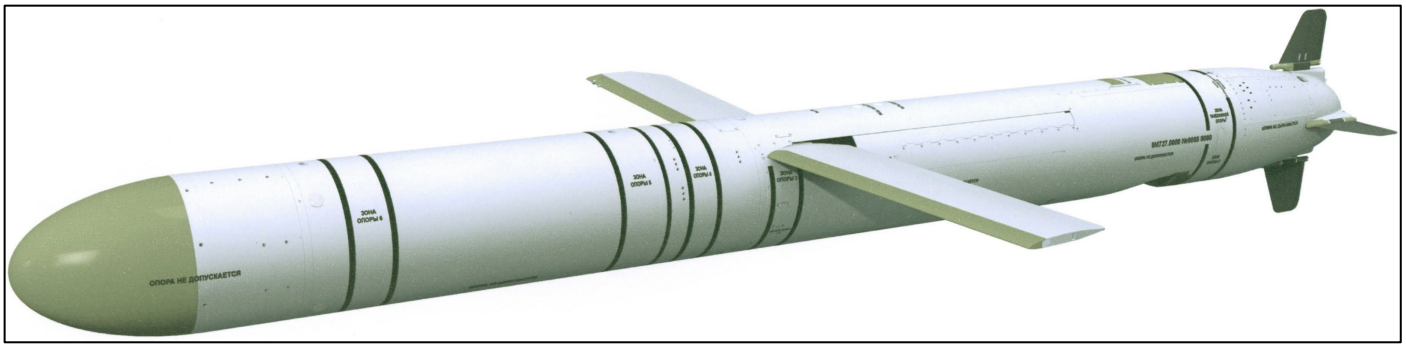
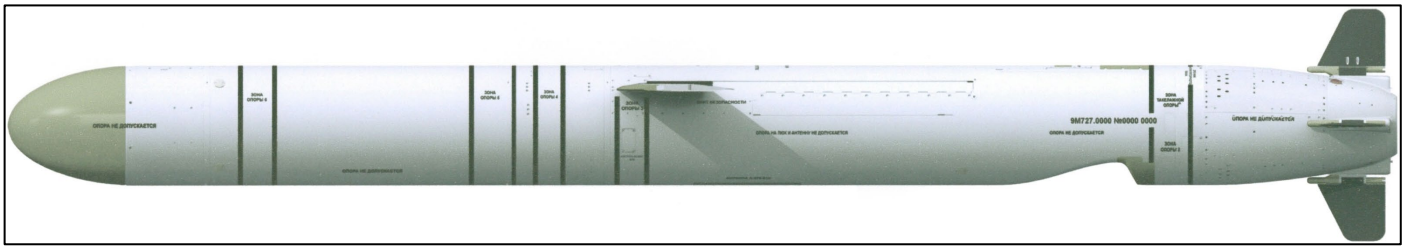
Guided Missiles (Cruise Missiles)

9M727/9M728 and 9M729 (Iskander-K)
(HE-frag)

Length:
9M727/9M728: 6.02m
9M729: ~8m
Diameter: 514mm
Wingspan: 3.08m
Note: Uses the 9N184 warhead.
Country of origin: russia







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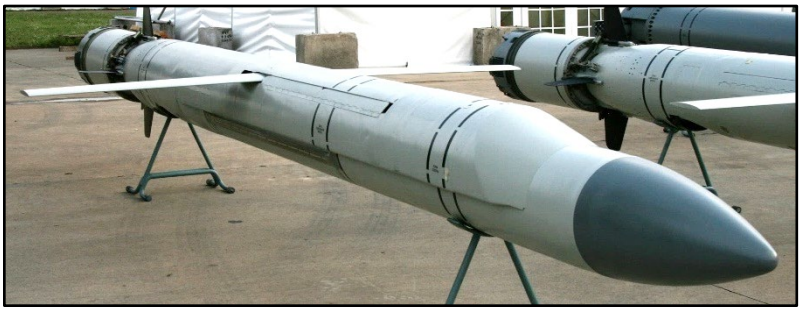
Guided Missiles (Cruise Missiles)



Kalibr / 3M-14 and 3M-54 Series
(HE-frag)

Length: 6.2m
Diameter: 533mm
Note: There are numerous different models and variants in this missile family.
Country of origin: russia

Kh-22 Series
(HEAT or HE-frag)

Diameter: 900-920mm
Length: 11650-11670mm
Wingspan: 3m
Note: These are liquid-fueled missiles which use highly toxic and corrosive inhibited red fuming nitric acid (IRFNA).
Country of origin: USSR

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Guided Missiles (Cruise Missiles)

Kh-35 Series
(HE penetrator)
Diameter of body: 420mm
Length: 3.85 / 4.4m
Wingspan: 1.33m
Country of origin: russia

Kh-55
(HE-frag)
Diameter: 514mm
Length: 5880mm
Wingspan: 3.1m
Country of origin: USSR/russia

Kh-55SM
(HE-frag)
Diameter: 770mm
Length: 6.04m
Wingspan: 3.1m
Country of origin: USSR/russia

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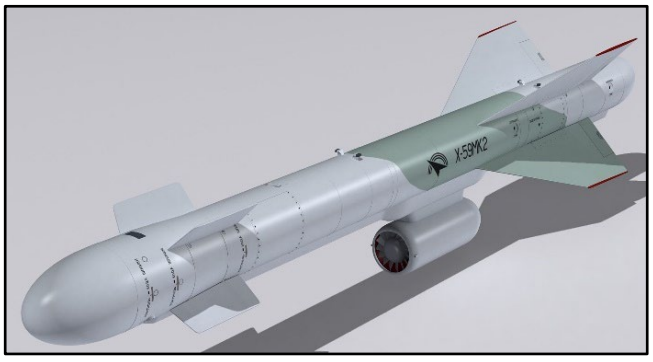
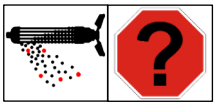
Guided Missiles (Cruise Missiles)

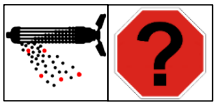


Kh-59MK2
(HE-frag submunitions)
Diameter of body: 380mm
Length: 5.7m
Wingspan: 1.3m
Country of origin: russia

[Submunition from Kh-59MK2 and Kh-69]



Kh-69
(HE penetrating or HE-frag submunitions)
Width of body: 400mm
Length: 4.19m
Wingspan: 2.45m
Country of origin: russia



[Submunition from Kh-59MK2 and Kh-69]

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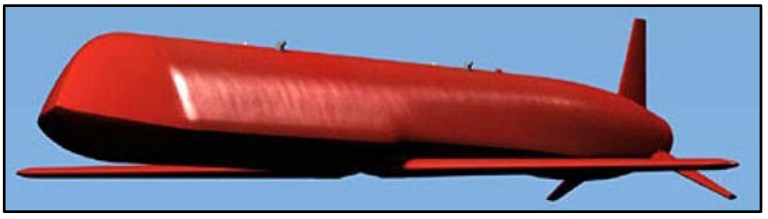
Guided Missiles (Cruise Missiles)

Kh-101
(HE-frag, tandem HE-frag, or HE-frag submunitions)

Length: 7450mm
Diameter: 742mm
Wingspan: 3m
Country of origin: russia



[Submunition from Kh-101]

HE-frag primary warhead

HE-frag secondary warheads

Cluster warhead

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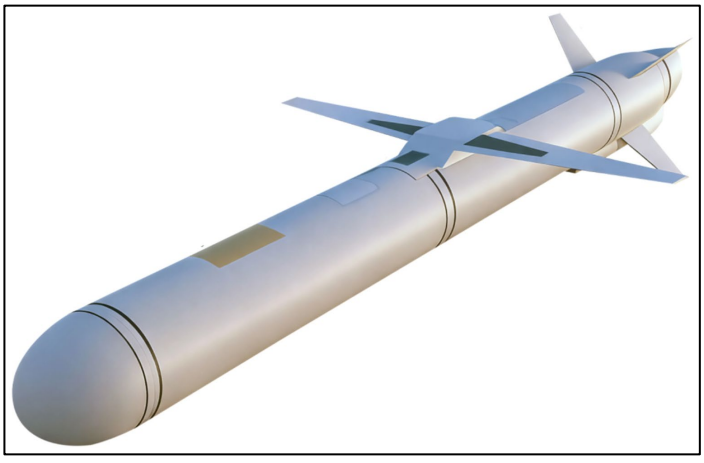
Guided Missiles (Cruise Missiles)



Object 30

(INFORMATION NEEDED)

Length: ~6m
Diameter: 580mm
Wingspan: 3m
Country of origin: russia

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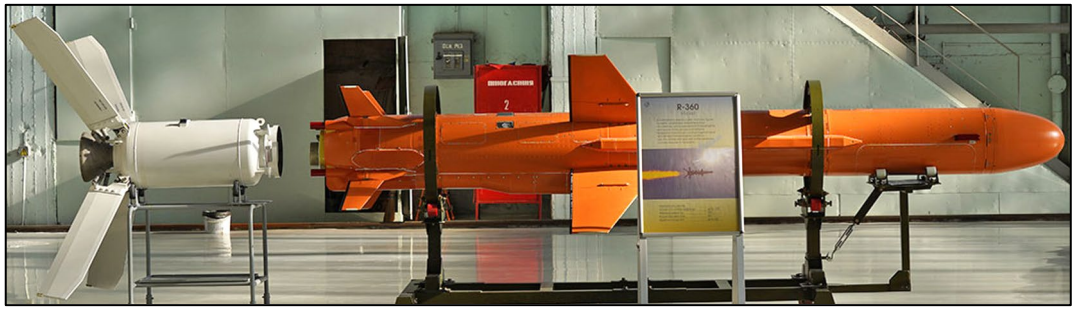
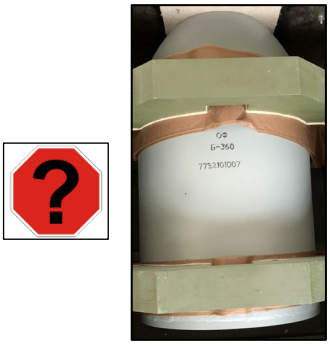
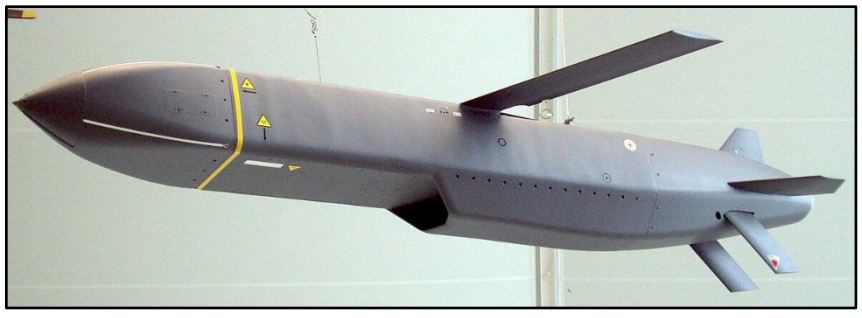
Guided Missiles (Cruise Missiles)

R-360 "Neptune"
(HE-frag)
Diameter of body: 440mm
Length of missile: ~4.4m
Total length: 5.05m
Wingspan: ~1.3m
Country of origin: Ukraine





Storm Shadow / SCALP EG
(HEAT-HE)
Diameter of body: 630mm
Length: 5.1m
Height: 480mm
Wingspan: 3m
Country of origin: UK, France



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Guided Missiles (Cruise Missiles)

Peklo
(HEAT, HE-frag or HE penetrating)

Length: ~2m
Wingspan: ~2m
Country of origin: Ukraine

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Guided Missiles (Ballistic Missiles)

Ballistic missiles are large, long-range guided missiles designed to hit targets on the surface of the earth. Unlike other guided missile types, such as cruise missiles, they do not rely on aerodynamic surfaces to produce lift; they follow a ballistic trajectory when their rocket motors stop producing thrust. They will still often possess fins or other control surfaces for course correction during their flight.

Ballistic missiles can be launched from various platforms: stationary (launch installations) and mobile (on wheeled or tracked chassis ground vehicles, airplanes, ships and submarines). In terms of physical size they are the largest category of guided missiles and, as a result, tend to carry the largest warheads.

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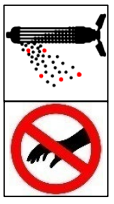
Guided Missiles (Ballistic Missiles)

9M723 Series (9K720 Iskander-M)
(HE-frag or HE-frag submunitions)
Diameter: 920mm
Length: 7.3m
Wingspan: 1460mm
Country of origin: russia

9B899

9N730



Kh-47M2 Kindzhal
(HE-frag)
Diameter of body: 1.2m
Length:7.2m
Country of origin: russia

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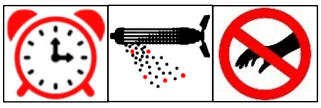
Guided Missiles (Ballistic Missiles)

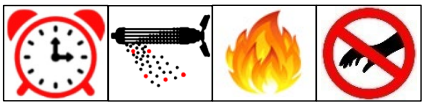
9M79 Series (Tochka-U)
(HE-frag or HE-frag submunitions)
Diameter: 650mm
Length: 6400mm
Wingspan: 1.41m
Tailspan: 1.44m
Country of origin: russia

9N24



MGM-140A and MGM-140E
(ATACMS)
(HE-frag incendiary submunitions or HE-frag)
Diameter of body: 607mm
Length: 3.98m
Note: The MGM-140A uses the M219A2 fuze.
Country of origin: USA

M74



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Guided Missiles (Miscellaneous)

The miscellaneous guided missiles section includes models which, due to unusual characteristics or design, do not easily fit into the other guided missile categories.

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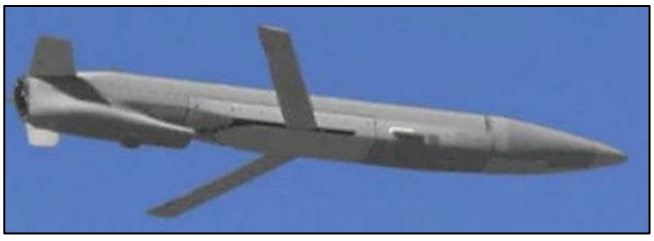
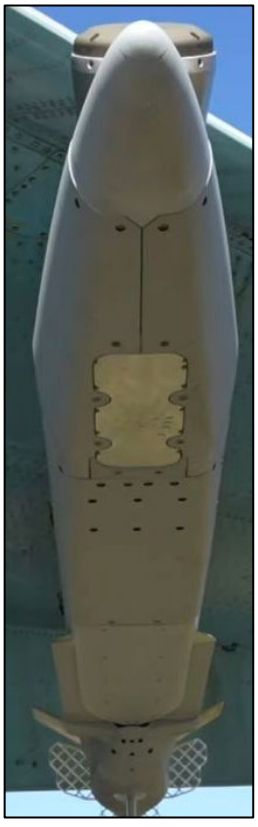
Guided Missiles (Miscellaneous)





ADM-160B MALD
(decoy)

Total height: 400mm
Width of body: **INFORMATION NEEDED**
Total length: 2.88m
Wingspan: 1.7m
Tailspan: 0.5m
Country of origin: USA

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Aerial Kamikaze Drones

Drones with a built-in explosive charge or warhead are considered “kamikaze” drones. This section contains examples of this type of drone which fly through the air. They may be single-rotor, multi-rotor, fixed-wing, or hybrid.

Most aerial kamikaze drones have continuous, two-way communication with their operators. This can allow the operators to remotely detonate the drone or, in the case of smaller rotary-wing drones, resume flight and engage nearby targets. Always treat drones with extreme caution, even if it appears they have crashed or are inoperable.

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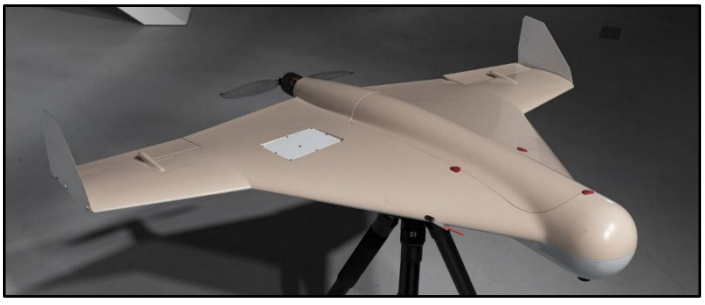
Aerial Kamikaze Drones

KUB

(HE-frag)

Wingspan: 1210mm
Length: 950mm
Height: 165mm
Note: Uses the OFBCh-2.5 warhead.
Country of origin: russia



Wedge

(HE-frag or HEAT)

Wingspan: 1920mm
Length: 1600mm
Country of origin: russia

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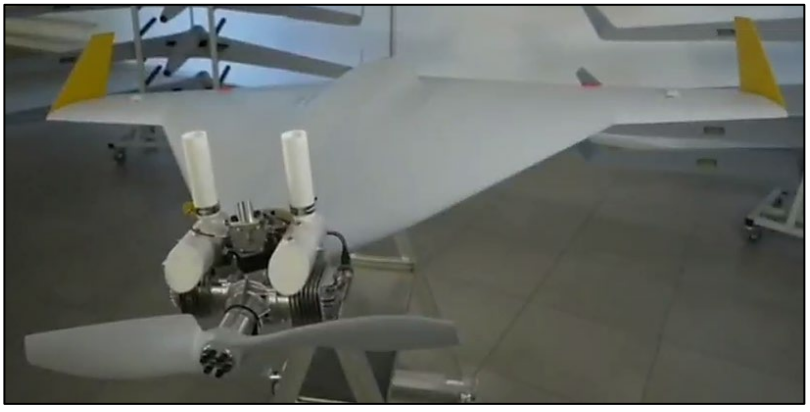
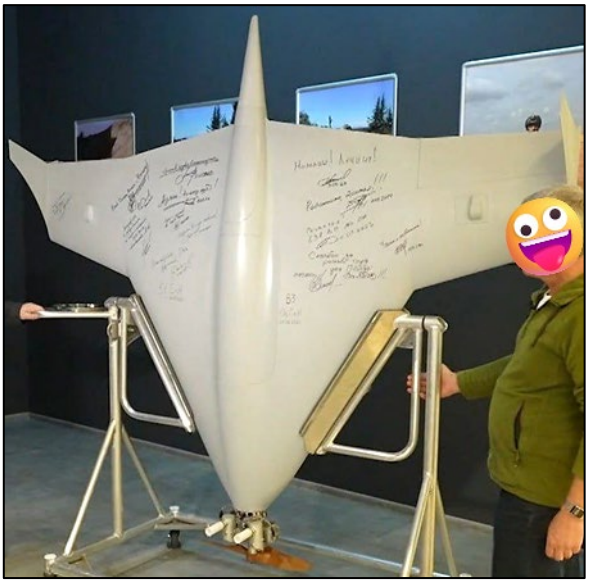
Aerial Kamikaze Drones

Italmas / Object 54

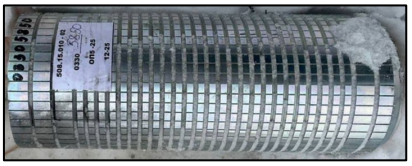
Wingspan: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Country of origin: russia

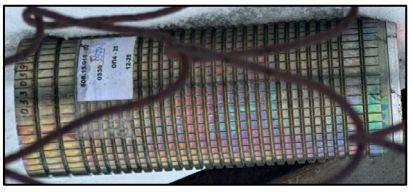




BM-35

Wingspan: 2.2m
Length: **INFORMATION NEEDED**
Note: These drones use a wide variety of different warheads and fuzing.
Country of origin: russia





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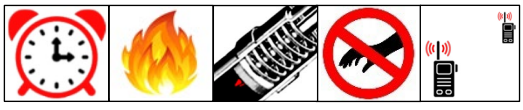
Aerial Kamikaze Drones

R-15
(HEAT, fragmentation or HE-frag)

Wingspan: 2.4-2.9m
Length: 1.2m
Country of origin: Ukraine

Lightning-1

Wingspan: ~1.5m
Length: **INFORMATION NEEDED**
Country of origin: russia



Note: These drones use a wide variety of different warheads and fuzing.

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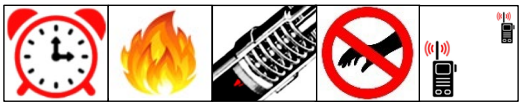
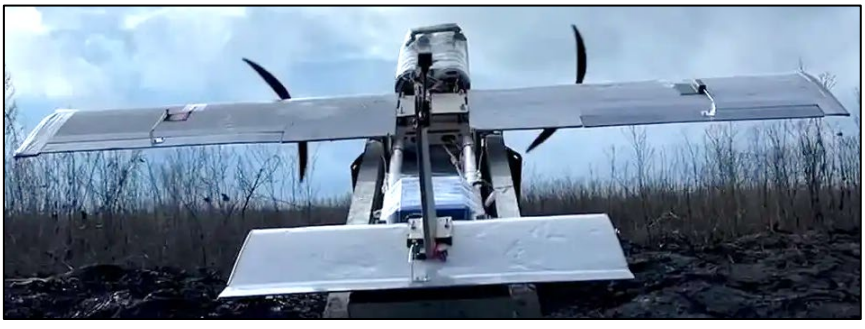
Aerial Kamikaze Drones

Lightning-2

Length: 1.65m
Wingspan: 1.82m
Tailspan: 570mm
Width of body: 190mm
Note: These drones use a wide variety of different warheads and fuzing.
Country of origin: russia





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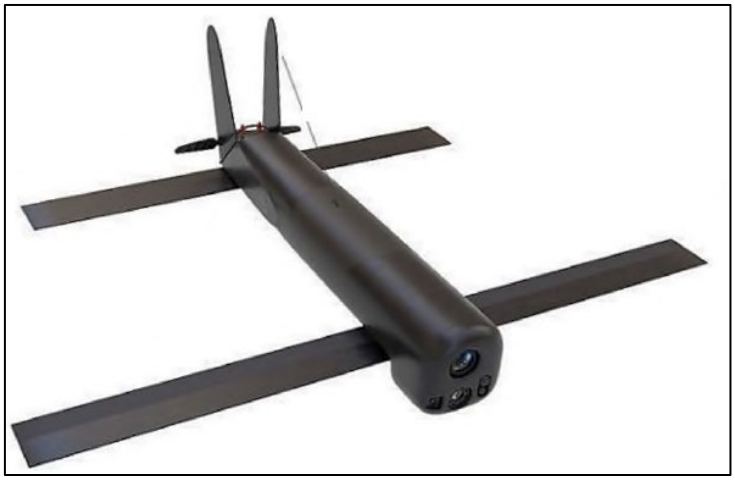
Aerial Kamikaze Drones

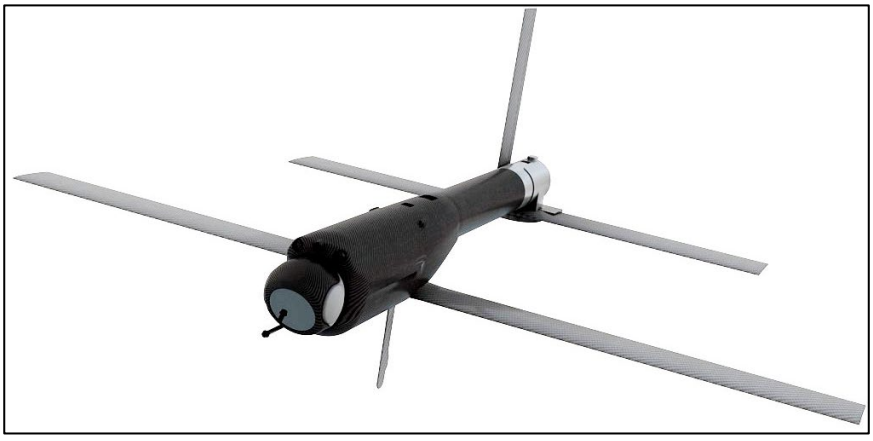
Switchblade 300
(HE-frag)

Wingspan: **INFORMATION NEEDED**
Length: 495mm
Country of origin: USA



Switchblade 600 **(HEAT)**

Wingspan: **INFORMATION NEEDED**
Length: 1.3m
Country of origin: USA



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Aerial Kamikaze Drones

V2U

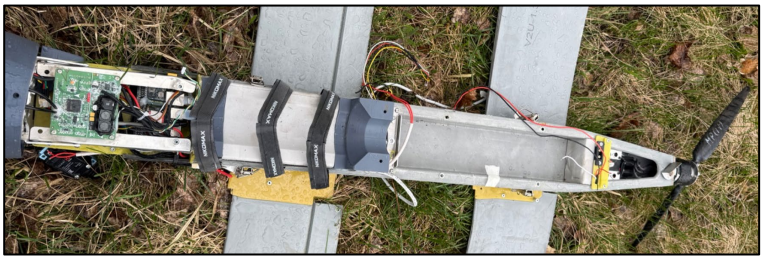
(HEAT, HE-frag, incendiary)

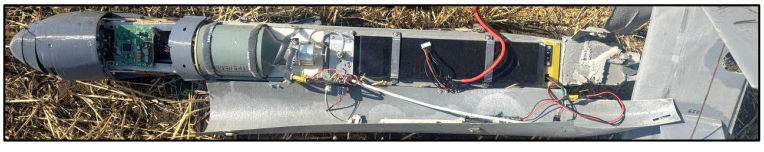
Wingspan: 1.2m

Length: **INFORMATION NEEDED**

Note: Normally used with the KOFZBCh-3 warhead and UZ fuze.

Country of origin: russia





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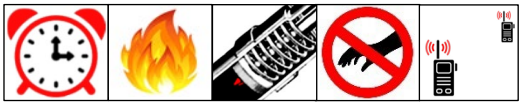
Aerial Kamikaze Drones

Maya

Wingspan: 2.13m
Length: ~1.6m
Note: These drones use a wide variety of different warheads and fuzing.
Country of origin: Ukraine



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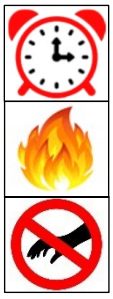
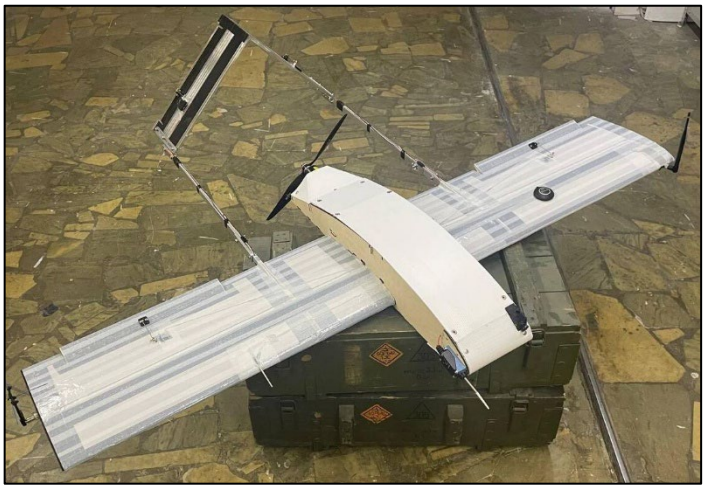
Aerial Kamikaze Drones

Darts

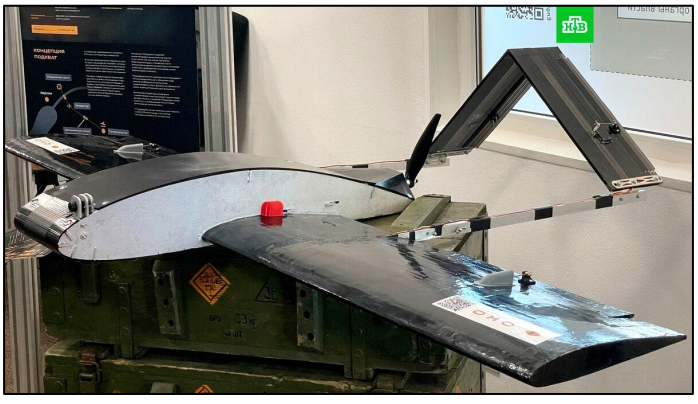
Wingspan: 1920mm
Length:1520mm
Height: 168mm
Note: These drones use a wide variety of different warheads and fuzing.
Country of origin: Ukraine





Privet-82 Series
(HEAT or thermobaric)

Length: **INFORMATION NEEDED**
Width of body: **INFORMATION NEEDED**
Wingspan: 2.2m
Country of origin: russia



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Aerial Kamikaze Drones

Lancet (Object-51)

Wingspan: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Note: These drones use a wide variety of different warheads and fuzing. Some contain two warheads – a main warhead in the front, and a small explosive charge in the tail.

Country of origin: russia

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Aerial Kamikaze Drones

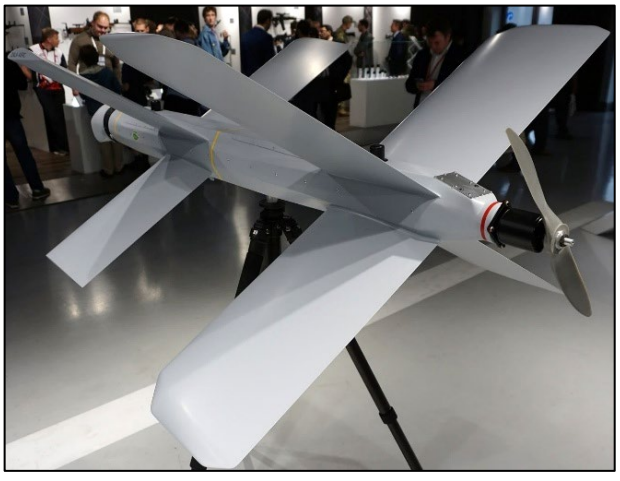
Lancet (Object-52)

Wingspan: 1.65m

Length: 1m

Note: These drones use a wide variety of different warheads and fuzing. Some contain two warheads – a main warhead in the front, and a small explosive charge in the tail.

Country of origin: russia



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Aerial Kamikaze Drones

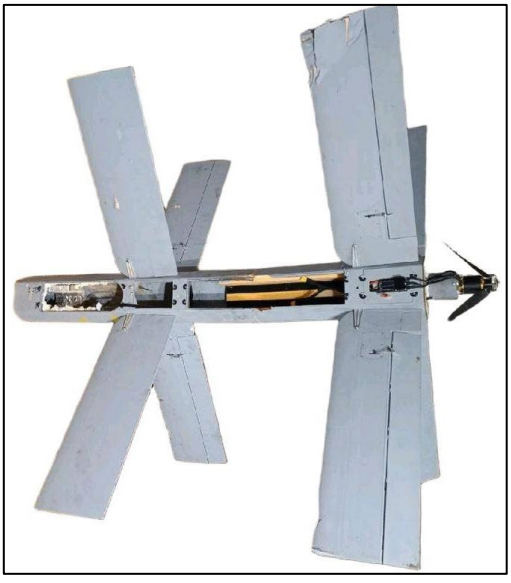
Scalpel

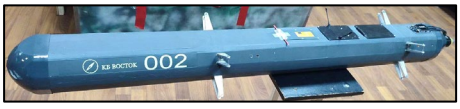
Wingspan: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Note: These drones use a wide variety of different warheads and fuzing.

Country of origin: russia





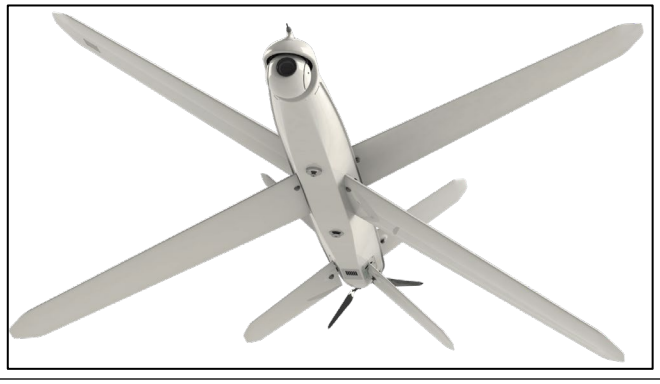
Bulava

(EFP / thermobaric)

Wingspan: 1.596m

Length: 1.545m

Country of origin: Ukraine



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Aerial Kamikaze Drones

RAM-2X
(EFP or HEAT)

Wingspan: 1.87m
Length: **INFORMATION NEEDED**
Note: There are both single- and dual-engine versions of this drone.
Country of origin: Ukraine

RAM-2S
(EFP or HEAT)

Wingspan: 2.6m
Length: 1.45m
Country of origin: Ukraine

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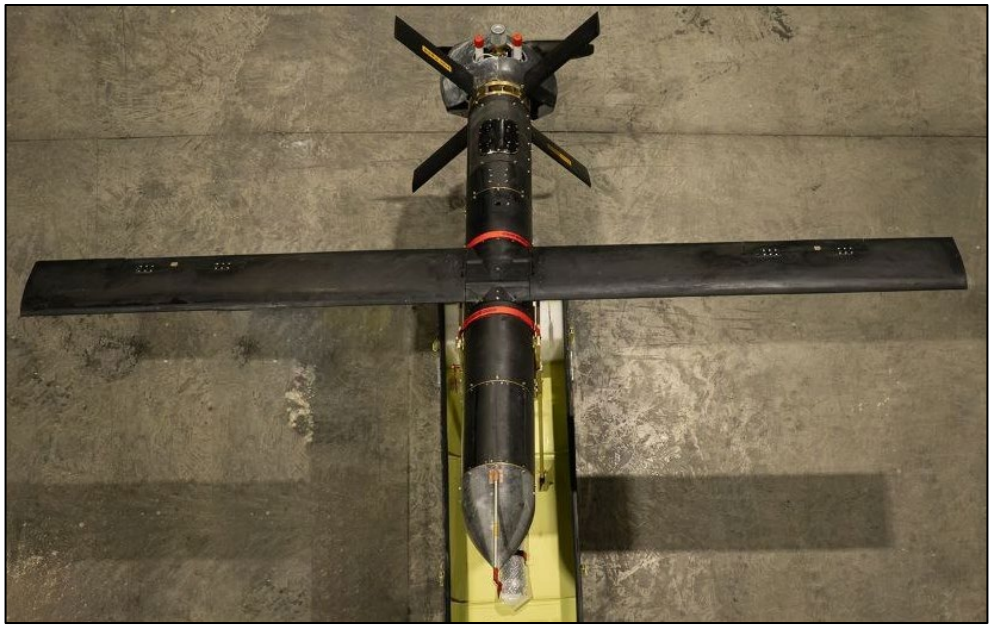
Aerial Kamikaze Drones

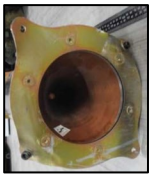
Shahed-101 / Shahed-107 Series
(HEAT, HE-frag)

Wingspan: 3m
Length: 2.5m
Note: These drones use the same electromechanical impact fuze that is used in the Shahed-131's warhead and the HE penetrator warhead of Shahed-136 drones.
Country of origin: Iran



Shahed-131 / Geran-1
(HEAT)

Wingspan: 2.2m
Length: 2.6m
Country of origin: Iran



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Aerial Kamikaze Drones

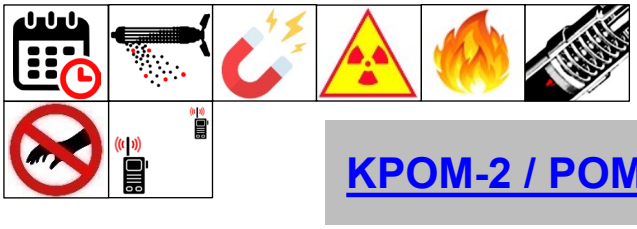
Shahed-136 / Geran-2 Series

Wingspan: 2.5m

Length: 3.5m

Note: These drones use a large variety of different warheads, which are listed on the following pages. They may also carry and deploy munitions, including scatterable mines and air-to-air missiles.

Country of origin: Iran, russia



[KPOM-2 / POM-2]

[KPTM-3 / PTM-3] [“Corn”] [R-60] [9K333/9M336 Verba]

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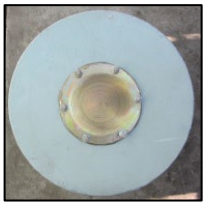
Shahed-136 / Geran-2 Series' Warheads

HE Penetrator Warhead
(HE-frag)

Tandem Precursor Charge
(HEAT)



BST-52
(HE, incendiary, HEAT)

BSF
(HE-frag, incendiary)

Double BSF Warheads
(HE-frag, incendiary)

OFZBCh-50
(HE-frag, incendiary)

TBBCh-50M
(thermobaric, fragmentation)

Enhanced Thermobaric Warhead
(thermobaric, fragmentation)

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Shahed-136 / Geran-2 Series' Warheads

90 KG Liquid-filled Warhead
(incendiary)

Airburst Warhead
(HE-frag, directional fragmentation)

KOFZBCh-90
(HEAT, HE-frag, incendiary)

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Shahed-136 / Geran-2 Series' Ammunition

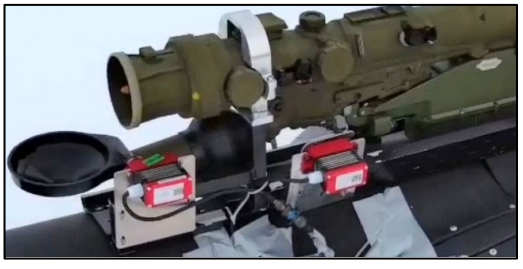
[“Corn” submunitions](#)
(HE-frag)

[KPTM-3 / PTM-3](#)
(HEAT submunitions)

[KPOM-2 / POM-2](#)
(fragmentation submunitions)

[R-60](#)
(air-to-air missile)

[9K333/9M336 Verba](#)
(surface-to-air missile)



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Aerial Kamikaze Drones

Shahed-238 / Geran-3 Series
(HE-frag, incendiary)
Wingspan: 3m
Length: 3.5m
Country of origin: Iran, russia

OFZBCh-50
(HE-frag, incendiary)

Geran-4
(INFORMATION NEEDED)
Wingspan: 3m
Length: 3.5m
Country of origin: russia

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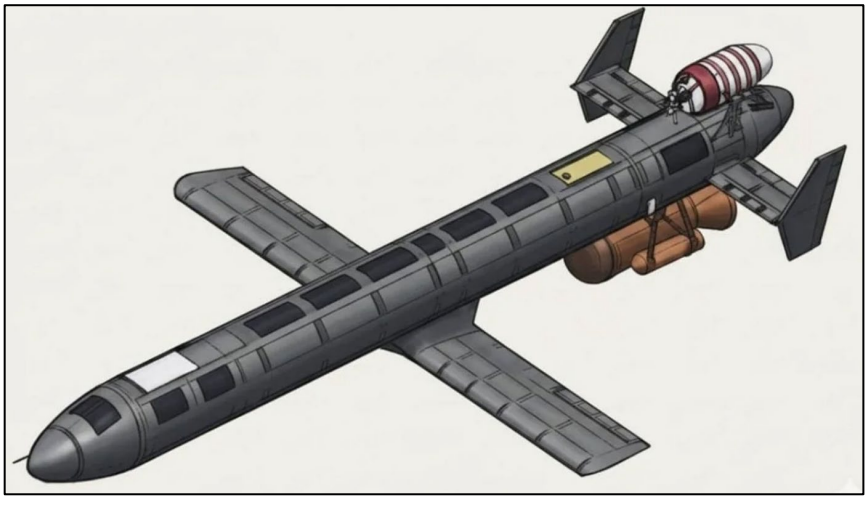
Aerial Kamikaze Drones

Geran-5
(INFORMATION NEEDED)
Wingspan:3.2m
Length: 6.5m
Country of origin: russia



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Aerial Kamikaze Drones

Sichen
(HE-frag penetrator warhead or EFP fragmentation warhead)
Wingspan: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Uses the PKK-10i fuze.
Country of origin: Ukraine

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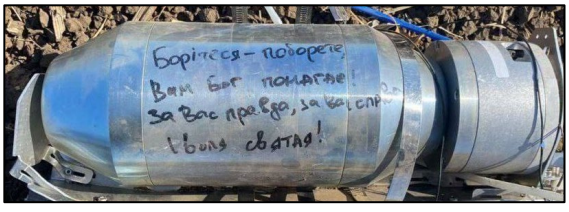
Aerial Kamikaze Drones

Nyan
(HE-frag)

Wingspan: 3.2m
Length: 2.1m
Country of origin: UK



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Aerial Kamikaze Drones

UJ-26 Bober
(HEAT, HE-frag)

Wingspan: 3m
Length: 2.5m
Note: Additional explosive charges may be located around the warhead.
Country of origin: Ukraine

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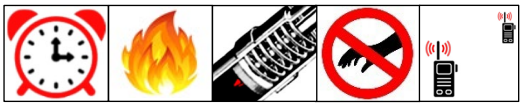
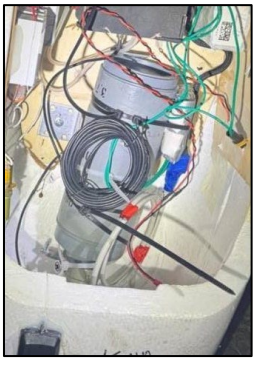
Aerial Kamikaze Drones

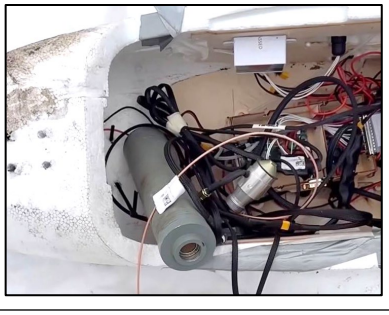
Gerbera

Wingspan: 2.5m
Length of body: 2m
Total length: 2.22m
Width of body: 450mm
Country of origin: russia

Note: Although some of these drones are used for reconnaissance or as decoys, there are also kamikaze variants. Treat all of them with caution! Additionally, these drones use a wide variety of different warheads and fuzing.







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Aerial Kamikaze Drones

RZ-100 “Morok”
(HEAT, HE-frag)

Wingspan: 1.5m
Length: **INFORMATION NEEDED**
Country of origin: Ukraine

TU-143

Wingspan: 2.24m
Length: 8.06m
Height: 1.545m
Note: This is a reconnaissance drone often modified with a warhead.
Country of origin: Ukraine

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Aerial Kamikaze Drones

Mugin-5 Pro
(HE-frag)

Length: 3.5m
Width of body: 375mm
Wingspan: 5m
Country of origin: China

Chaklun-V
(EFP, fragmentation)

Length: 2m
Wingspan: 2.5m
Note: This drone may have multiple warheads installed.
Country of origin: Ukraine

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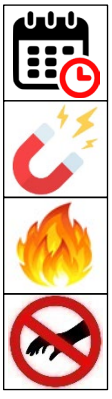
Aerial Kamikaze Drones

Elf-K

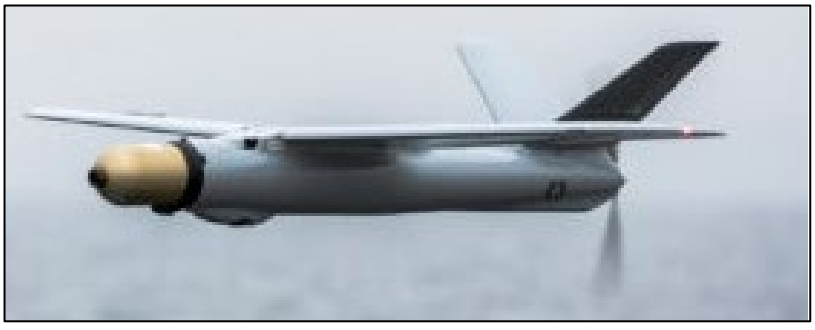
Length: 640mm
Wingspan: 1750mm

Note: These drones can use a wide variety of different warheads, and are intended to be fuzed with a VP-2 firing device from the PK-8 complex.
Country of origin: Ukraine



Warmate
(HE-frag or thermobaric)

Length: 1170mm
Wingspan: 1590mm
Country of origin: Poland



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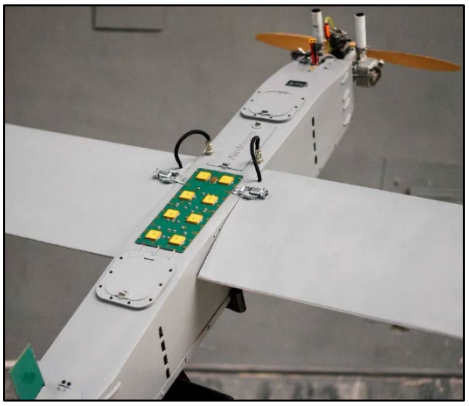
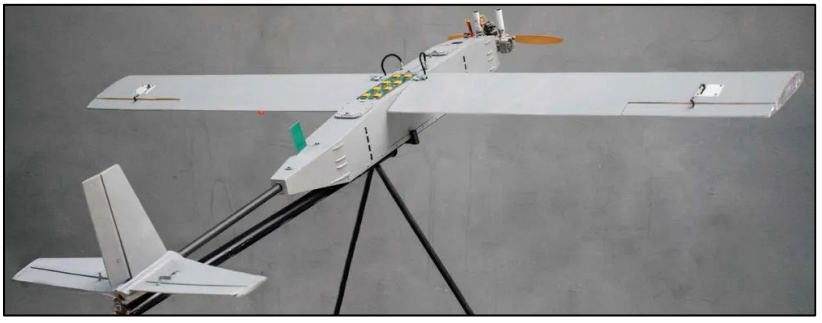
Aerial Kamikaze Drones

Bong / Sewer Pipe
(EFP-fragmentation or HE-frag)
Length: 2.1m
Diameter of body: 160mm
Wingspan: 2.3m
Country of origin: Ukraine

FRAME V2
Length: 2.45m
Wingspan: 3.1m
Note: These drones use a wide variety of different warheads and fuzing.
Country of origin: Ukraine





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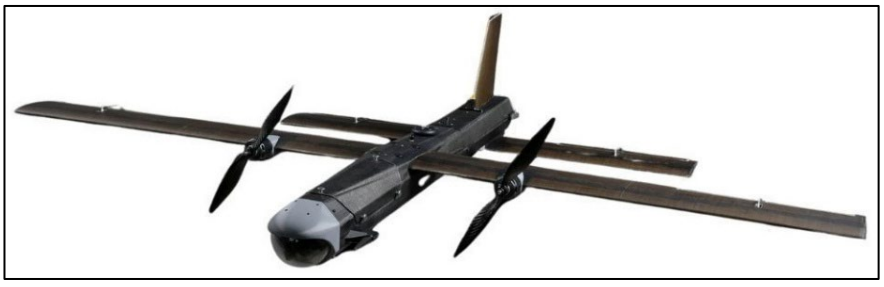
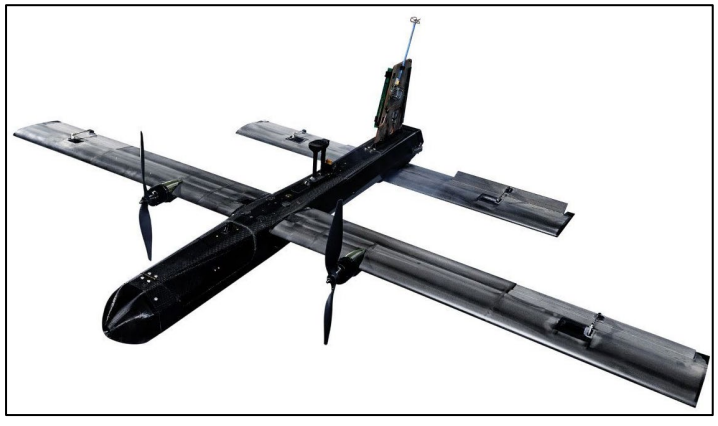
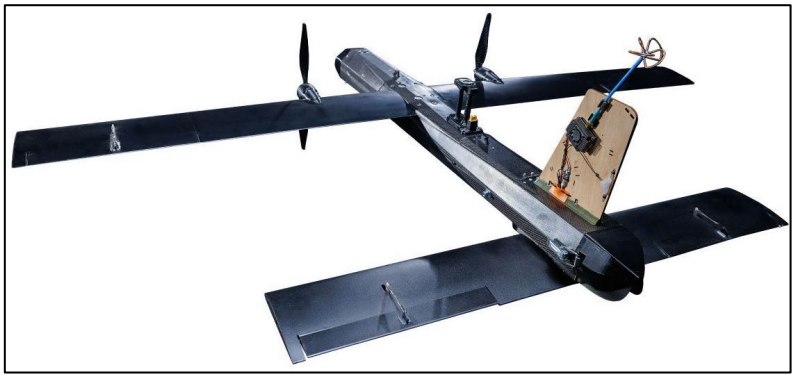
Aerial Kamikaze Drones



BATON
(EFP fragmentation warhead)
Length: 1100mm
Height: 450mm
Wingspan: 1710mm
Country of origin: Ukraine





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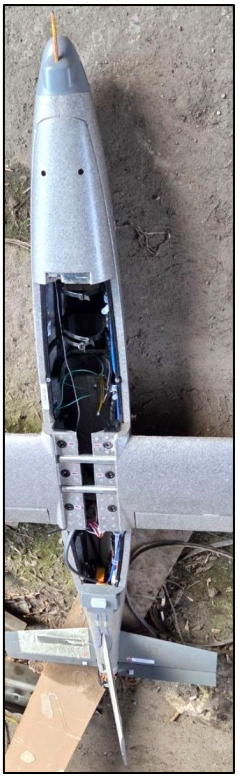
Aerial Kamikaze Drones

Hornet / "Martian-2"
(EFP-fragmentation or HE-frag)

Length: 1.52m
Width of body: 170mm
Wingspan: 2.10m
Note: Normally used with the Viva 1.0 fuze.
Country of origin: Ukraine



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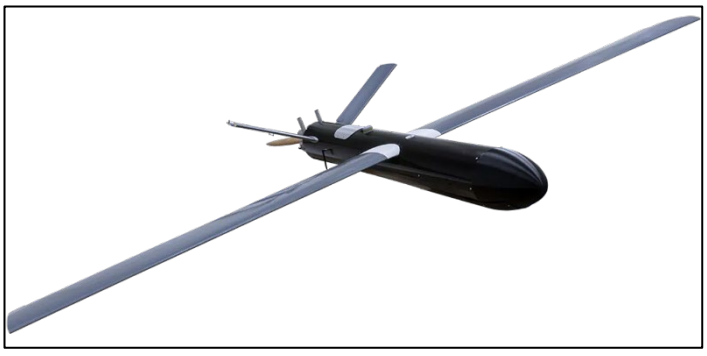
Aerial Kamikaze Drones



Disruptor
(HE-frag or penetrator warhead)
Length: 3.06m
Width of body: **INFORMATION NEEDED**
Wingspan: 4.8m
Country of origin: USA

Sting
(HE or HE-frag)
Length: 410mm
Diameter of body: 100mm
Width at the motors: 420mm
Wingspan: 335mm
Note: Normally used with the AED-01 fuze.
Country of origin: Ukraine

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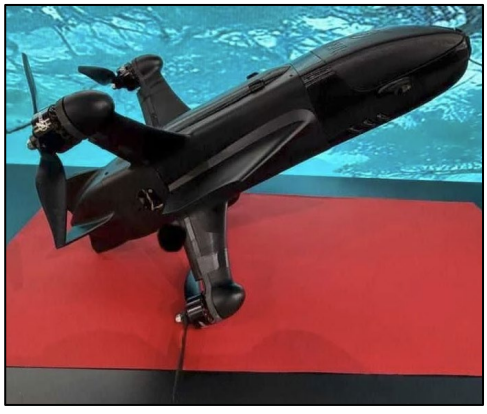
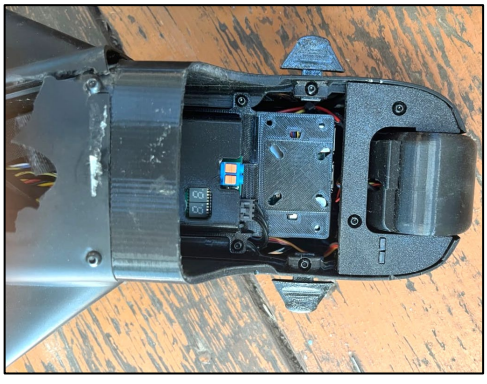
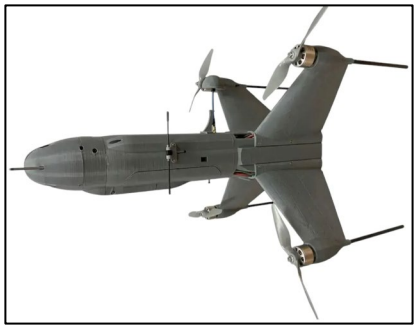
Aerial Kamikaze Drones

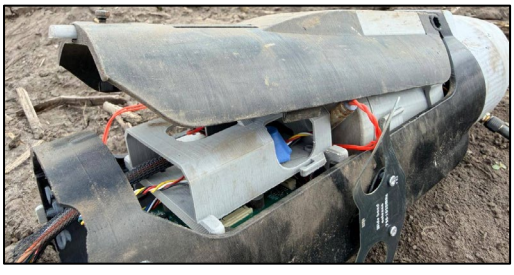
F7 LITAVR
(HE-frag)
Length: **INFORMATION NEEDED**
Width of body: **INFORMATION NEEDED**
Wingspan: **INFORMATION NEEDED**
Note: Normally used with the Opera fuze.
Country of origin: Ukraine





Bagnet
(HE-frag)
Length: **INFORMATION NEEDED**
Width of body: **INFORMATION NEEDED**
Wingspan: **INFORMATION NEEDED**
Country of origin: Ukraine





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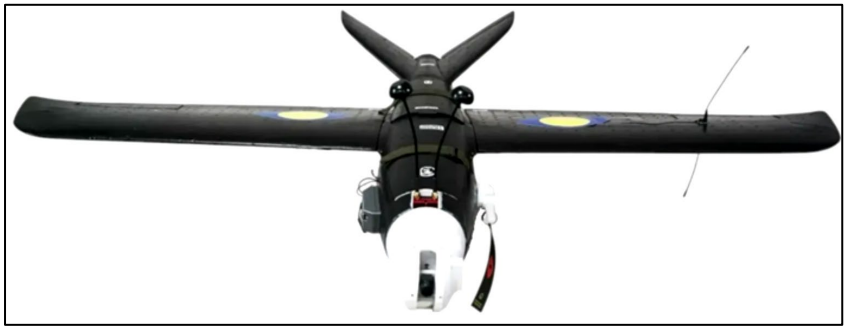
Aerial Kamikaze Drones

VB140 Flamingo
(HE-frag)
Length: **INFORMATION NEEDED**
Width of body: **INFORMATION NEEDED**
Wingspan: 1488mm
Country of origin: Ukraine



Taras-P
(HE-frag)
Length: 828mm
Width of body: 160mm
Wingspan: 1.4m
Note: Normally used with Ikar / Icarus Series fuzes.
Country of origin: Ukraine

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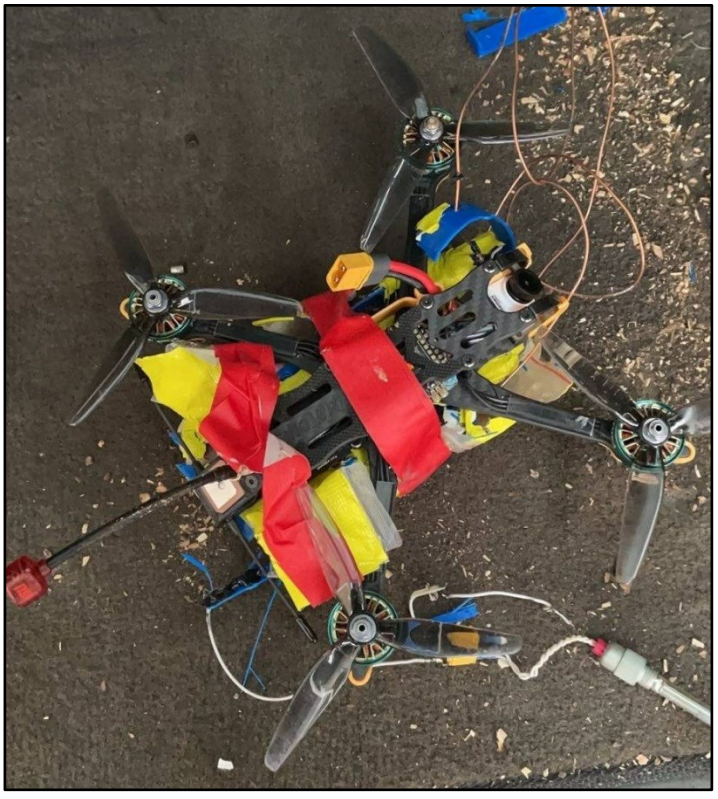
Aerial Kamikaze Drones

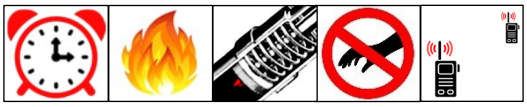


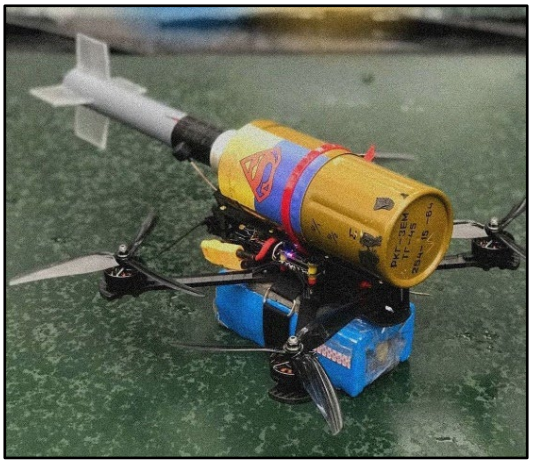
FPV Type of UAV

Dimensions: varies

Note: There is a wide variety of warheads and fuzing systems used with FPV drones. Always treat them with caution!

Country of origin: russia, Ukraine





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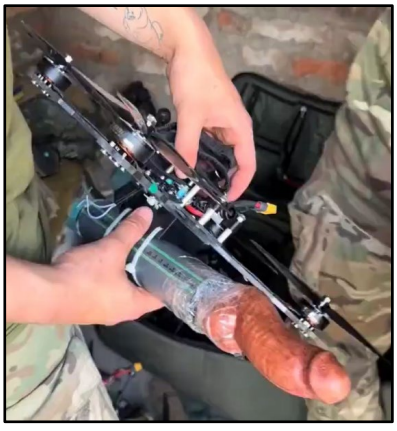
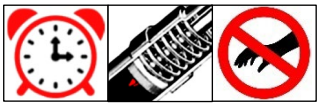
Aerial Kamikaze Drones

FPV Drones with OFSP-2.5-A133 as Warhead
(HE-frag)
Dimensions: varies
Country of origin: russia

OFSP-2.5-A133



FPV Drones with Dildos
(HE-frag)
Dimensions: varies
Note: These drones may use sensitive or unstable fuzing. Take caution and do not be tempted!
Country of origin: russia/Ukraine



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Armed Aerial Drones

Armed drones are designed to either drop or fire the ammunition that they carry. This section contains armed drones which fly through the air. They may be single-rotor, multi-rotor, fixed-wing, or hybrid.

The ammunition that armed aerial drones carry often has very sensitive fuzing, and this allows operators the flexibility of crashing the drone into a target just as if it was a kamikaze drone. Additionally, most armed aerial drones have continuous, two-way communication with their operators. This can allow the operators to remotely detonate the drone's ammunition or, in the case of smaller rotary-wing drones, resume flight and engage nearby targets. Always treat drones with extreme caution, even if it appears they have crashed or are inoperable.

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Armed Drones

Orlan-10

(UAV)

Wingspan: 3m

Length: **INFORMATION NEEDED**

Note: Most Orlan-10 drones are not armed. The armed version has 2 pods (total of 4 bombs).

Country of origin: russia

OFSP-08-A133

PD-2

(UAV)

Wingspan: 5m

Length: 2.85m

Height: 1.05m

Note: Munitions may be carried on the wing or inside the fuselage.

Country of origin: Ukraine

Revolver 860

(UAV)

Width: 1060mm

Height: 490mm

Note: The armed version carries 8 x 60mm bombs

Country of origin: Taiwan

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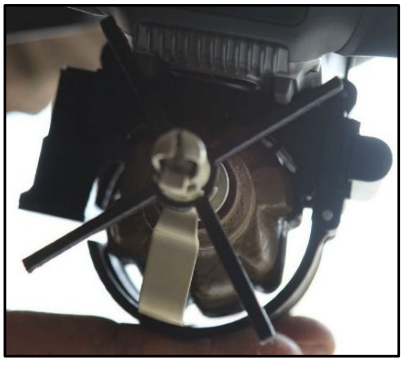
Armed Drones



DJI Series

Dimensions: varies

Note: DJI drones can carry a wide variety of both standard and improvised ammunition. Always treat them with caution!

Country of origin: China

Lastochka-M

(UAV)

Wingspan: ~3m

Length: ~2m

Country of origin: russia

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Armed Drones

Mohajer-6 / ER-860
(UAV)
Wingspan: 10m
Length: 7.5m
Height: 1.9m
Country of origin: Iran

Qaem-5

Punisher
(UAV)
Wingspan: 2.9m
Length: 1.5m
Country of origin: Ukraine

UB-75HE

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Armed Drones

Bayraktar TB2

(UAV)

Wingspan: 12m
Length: 6.5m

Note: Can carry up to 4 munitions.

Country of origin: Turkey

«MAM-L»

«MAM-C»

Orion-E

(UAV)

Wingspan: 16m
Length: 8m
Height: 3m

Country of origin: russia

UAB-20 OFL

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Armed Drones

Forpost

(UAV)

Wingspan: 9.1m
Length: 6m
Height: **INFORMATION NEEDED**
Country of origin: russia

UAB-20 OFL

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Ground Drones

This section contains drones which are designed to primarily travel over the ground. They may use wheels, tracks, or both. Many ground drones are designed for non-destructive purposes – logistics resupply, casualty evacuation, etc. Only ground drones which have been specifically designed for destructive purposes or are often modified for destructive purposes have been included in this guide.

Drones with a built-in explosive charge or warhead are considered “kamikaze” drones. “Armed” drones are designed to either drop or fire the ammunition that they carry. Due to the high frequency of armed ground drones also containing explosive charges, either for attack or self-destruction purposes, both kamikaze and armed ground drones are included in this section.

Most ground drones have continuous, two-way communication with their operators. This can allow the operators to remotely detonate the drone, move it towards a target, or engage a target with its weapon system(s). Always treat drones with caution, even if they appear damaged or inoperable.

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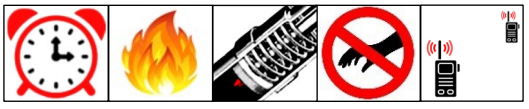
Ground Drones

Courier
(UGV)

Dimensions: **INFORMATION NEEDED**
Note: May be armed with a machine gun, an AGS-17 automatic grenade launcher, rockets, or RPGs. These drones are also often used to deploy landmines and explosive charges, which can be remotely detonated.
Country of origin: russia



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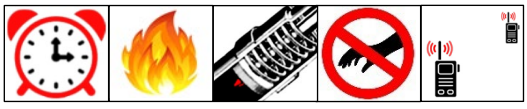
Ground Drones

Impulse and Impulse-M
(UGV)

Length: 2.25m
Width: 1.6m
Height of body: 630mm

Note: May be armed with a machine gun, an AGS-17 automatic grenade launcher rockets, or RPGs.
Country of origin:
russia



Tarhan Series
(UGV)

Dimensions: varies

Note: These drones are designed as minelayers but may also be used in a kamikaze role.

Country of origin: Ukraine

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Ground Drones

Ratel S
(UGV)

Length: 830mm

Width: 740mm

Height: 1010.5mm

Note: These drones are designed as minelayers but may also be used in a kamikaze role.

Country of origin: Ukraine

Scorpion-M
(UGV)

Dimensions: **INFORMATION NEEDED**

Country of origin: russia

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Naval Drones

This section contains drones which are designed to travel on the surface of the water, underwater, or both. Their hulls, steering and propulsion systems are analogous to those used by manned naval vessels. Compared to most of their aerial and ground counterparts, the majority of naval drones used since the full-scale invasion of 2022 are relatively large in both size and weight.

Drones with a built-in explosive charge or warhead are considered “kamikaze” drones. “Armed” drones are designed to either drop or fire the ammunition that they carry. Due to the high frequency of armed naval drones also containing explosive charges, either for attack or self-destruction purposes, both kamikaze and armed naval drones are included in this section.

Most naval drones have continuous, two-way communication with their operators. This can allow the operators to remotely detonate the drone or move it towards a target. Always treat naval drones with caution, even if they appear damaged or inoperable, or they have been washed onto land.

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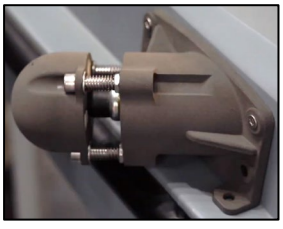
Naval Drones

MAGURA V5
(USV)

Length: 5.5m
Width: 1.5m
Note: This drone normally has 3 impact fuzes located in the bow.
Country of origin: Ukraine



Sea Baby
(USV)

Length: 6m
Width: 2m
Note: In addition to a warhead, this drone may also be armed with a machine gun, RPGs, sea mines, or 122mm rockets.
Country of origin: Ukraine

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Naval Drones

MAGURA V7
(USV)

Length: 7.2m
Width: 2.1m
Note: This drone normally has 3 impact fuzes located in the bow. In addition to its internal warhead, it may also be equipped with AIM-9 Series surface-to-air missiles.
Country of origin: Ukraine

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Modified Ammunition

Standard ammunition is often modified in order to make it suitable for dropping from drones. This is accomplished in many ways including: modifying or changing the fuzing, removing unnecessary components, adding components such as stabilizers and fins, and combining different types of ammunition together.

Under some systems of classification this modified ammunition would be considered “Improvised Explosive Devices (IEDs)”. IEDs are a much broader category of destructive items which goes beyond the scope of this identification guide.

This section only contains examples of modified ammunition intended to be used with drones.

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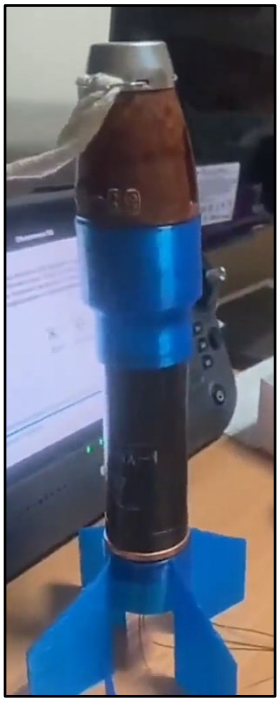
Modified Ammunition

Drone-dropped PG
(HEAT)
Dimensions: varies
Country of origin: russia/Ukraine

KZ-6 Shaped Charge Adopted as Drone-dropped Munition
(HEAT)

Dimensions: varies
Country of origin: russia/Ukraine



30mm VOG-17M and RHV-HEF Adopted for Dropping from a Drone
(HE-frag)
Dimensions: varies
Country of origin: russia/Ukraine

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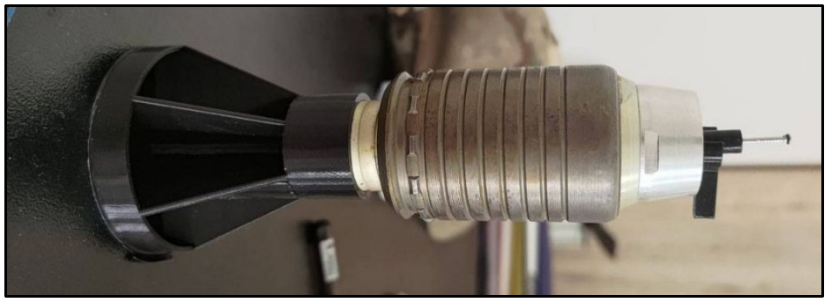
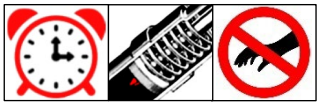
Modified Ammunition



40mm VOG-25 Adopted for Dropping from a Drone
(HE-frag)
Dimensions: varies
Country of origin: russia/Ukraine

TM-62M Adopted for Dropping from a Drone
(HE)
Dimensions: varies
Country of origin: russia/Ukraine



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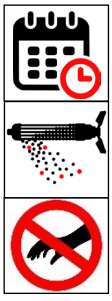
Modified Ammunition

POM-2 Adopted for Dropping from a Drone
(fragmentation)

Dimensions: varies
Country of origin: russia/Ukraine



Drone-dropped POM-2 Copy
(fragmentation)

Dimensions: varies
Note: Uses an electronic fuze with 4 tripwires. These improvised munitions were later standardized as the K-2 “Bandera” scatterable mines.
Country of origin: Ukraine

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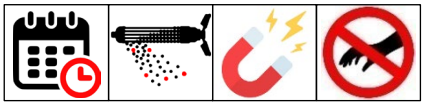
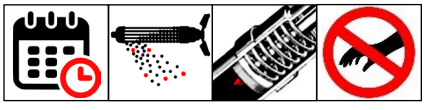
Modified Ammunition

PTM-4 Adopted for Dropping from a Drone
(HEAT)
Dimensions: varies
Country of origin: russia/Ukraine



KPFM-1S/9N223 Cassette Adopted for Dropping from a Drone
(HE)
Dimensions: varies
Country of origin: russia/Ukraine



Dildo-based Drone Munitions
(HE-frag)
Dimensions: varies
Note: These munitions may contain sensitive or unstable fuzing. Take caution and do not be tempted!
Country of origin: russia/Ukraine

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Mine Clearance Systems

Mine clearance systems use explosive charges to clear paths through minefields. They can also be used offensively to clear enemy positions. Sizes range from large vehicle mounted systems to small, man-portable units.

In order to deploy their linear explosive charges, most modern mine clearance systems utilize a rocket. The rocket pulls the charge up and through the air away from the deployment site, the charge then falls to the ground along the path to be cleared. After the charge is fully deployed, a delay fuze may initiate it automatically or the user may have command control, depending on the system's design.

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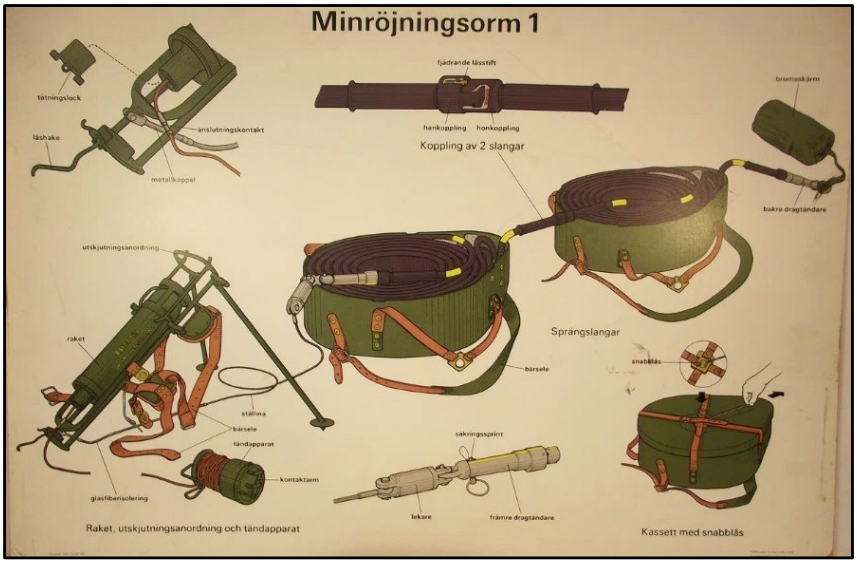
Mine Clearance Systems

Minröjningsorm-1
(mine-clearing system)
Country of origin: Sweden



M58 Series MICLIC
(mine-clearing systems)
Note: Uses the MK 22 Mod 4 rocket.
Country of origin: USA

MK 22 Mod 4

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Mine Clearance Systems

UR-67
(mine-clearing system)
Country of origin: USSR

150mm DM-70

UR-77
(mine-clearing system)
Country of origin: russia

150mm DM-70

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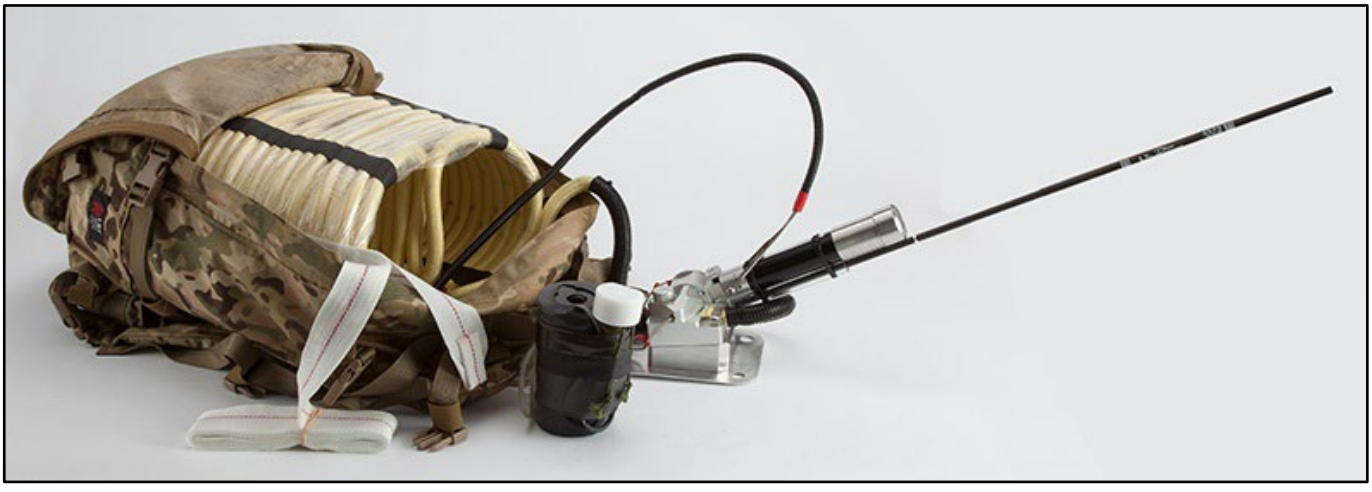
Mine Clearance Systems

UR-83P
(mine-clearing system)
Country of origin: russia

150mm DM-70

MPLC
(mine-clearing system)
Country of origin: USA



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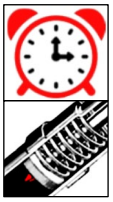
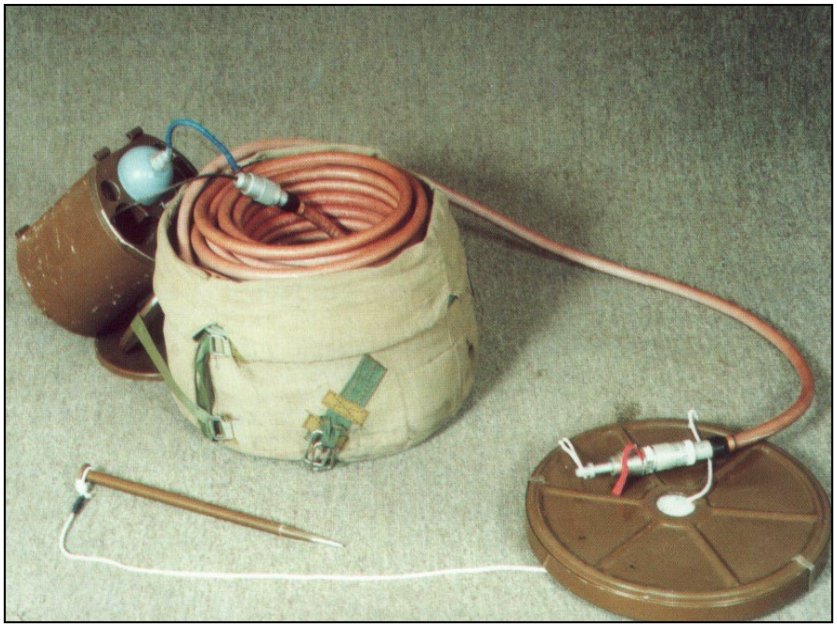
Mine Clearance Systems

L-POMBS / LPEMBS
(mine-clearing system)
Country of origin: Germany, Norway



ZRP-2 "Trail"
(mine-clearing system)
Country of origin: russia



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Demolition Materials

Demolition materials consist of the high explosive charges, equipment, initiating devices, and priming materials that are used for military demolition work. This includes trenching charges, shaped charges, bulk explosive charges, detonators, and initiators. They may be used in a wide variety of ways, but are generally utilized to destroy buildings, bridges, railways, roads, military equipment, and captured enemy ammunition.

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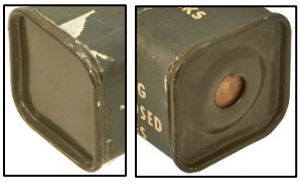
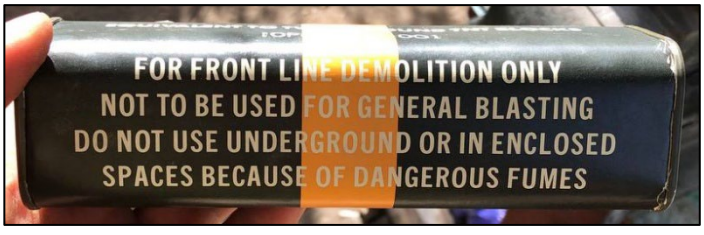
Demolition Materials

OZ-1
(cratering charge)
Diameter of base: 420mm
Height: 900mm
Weight of assembly: 3.5kg
Country of origin: russia

1-Pound TNT Block
(demolition charge)

Height: 51mm
Width: 51mm
Length: 178mm
Country of origin: USA





M112
(demolition charge)
Length: ~280mm
Width: ~51mm
Thickness: ~25mm
Weight: 0.57 kg
Country of origin:
USA

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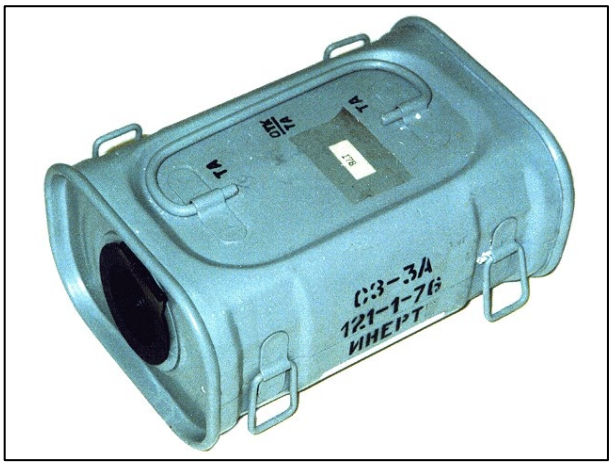
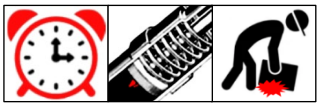
Demolition Materials



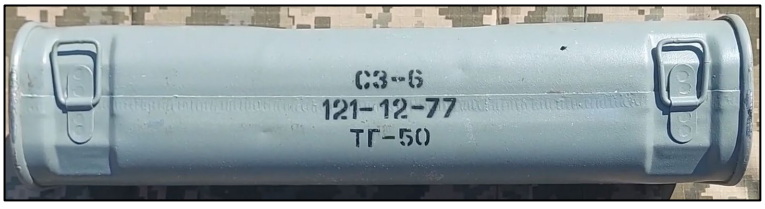
SZ-3A
(demolition charge)

Height: 98mm
Width: 142mm
Length: 200mm
Note: This charge is designed to be used underwater with time fuzes or sabotage devices. It is also often used as a warhead for drones.
Country of origin: USSR

SZ-6
(demolition charge)



Height: 98mm
Width: 142mm
Length: 395mm
Note: This charge is designed to be used underwater with time fuzes or sabotage devices. It is also often used as a warhead for drones.
Country of origin: USSR



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Demolition Materials

<u>KZ-4</u> (shaped charge)
Diameter: 410mm
Height: 440mm
Country of origin: russia

<u>KZ-5</u>
(shaped charge)
Diameter: 215mm
Height: 451mm
Height of the warhead: 280mm
Country of origin: russia

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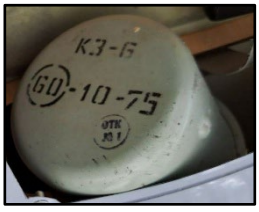
Demolition Materials

KZ-6
(shaped charge)

Diameter: 112mm
Height: 292mm
Note: This demolition charge is commonly used as a suicide drone main charge or modified to be dropped by drones.
Country of origin: russia



KZ-7 (shaped charge)

Diameter: 162mm
Height with legs folded: 272mm
Height with legs unfolded: 670mm
Note: This demolition charge is commonly used as a suicide drone main charge.
Country of origin: russia

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Demolition Materials

KZU
(shaped charge)
Height: 195mm
Width: 225mm
Length: 500mm
Note: May be used with several different short- and long-delay time fuzes.
Country of origin: russia

KZU-2
(shaped charge)
Height: 85mm
Width: 105mm
Length: 150mm
Note: May be used with several different short- and long-delay time fuzes.
Country of origin: russia

NR50
(shaped charge)
Diameter: 219mm
Height: **INFORMATION NEEDED**
Weight: 11 kg
Country of origin: Czech Republic

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Demolition Materials

DM19
(shaped charge)
Height: 500mm
Height of warhead: 280mm
Width: 280mm
Length: 200mm
Country of origin: Germany

DM29
(shaped charge)
Height: 270mm
Height of warhead: 165mm
Width: 165mm
Length: 210mm
Country of origin: Germany

A205
(thermite torch)

Diameter: 30mm
Length: 168mm
Note: Designed to be initiated either with time fuse or by using the built-in electric igniter.
Country of origin: UK

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Demolition Materials

<u>M3A1</u> (shaped charge)
Diameter: ~240mm
Height: ~750mm
Height of warhead: ~394mm
Weight: ~18 kg
Country of origin: USA

<u>M2A4</u>
(shaped charge)
Diameter: ~180mm
Height: ~420mm
Height of warhead: ~305mm
Country of origin: USA

<u>DM171</u>
(demolition charge)

Diameter: 300mm
Height: 98mm

Note: This is a DM21 landmine without its fuze, repurposed for demolition use.
Country of origin: Germany

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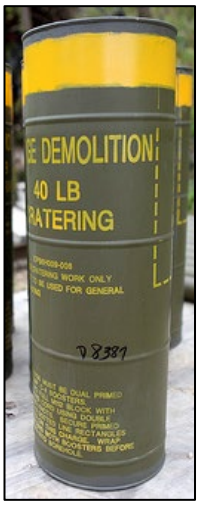
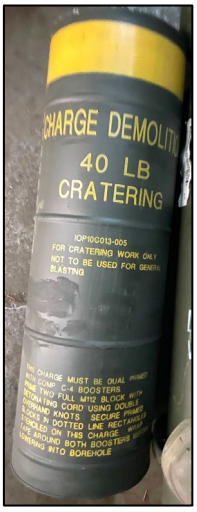
Demolition Materials





40-Pound Cratering Charge
(cratering charge)
Diameter: 170mm
Height: 508mm
Country of origin: USA

43-Pound Cratering Charge
(cratering charge)
Diameter: 210mm
Height: 610mm
Country of origin: USA

M1A1/M1A2 Bangalore Torpedo
(demolition kit)
Diameter: 54mm
Section Length: 1.52m
Country of origin: USA

M1A3 Bangalore Torpedo
(demolition kit)
Diameter: 54mm
Section Length: 767mm
Country of origin: USA

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Demolition Materials

KD No. 8-A
(non-electric detonator)
Diameter: 6.8-7.05mm
Length: 45.5-48.5mm
Country of origin: USSR/russia

EDP
(electric detonator)
Diameter: 6.8-7.05mm
Length: 45.8-48.5mm
Country of origin: USSR/russia

EDP-r
(electric detonator)
Diameter: 6.8-7.05mm
Length: 45.8-48.5mm
Country of origin: USSR/russia

M81
(igniter)
Diameter: 19mm
Length of body: 101.6mm
Total length: 135.7mm
Note: Used to initiate time fuse or shock tube.
Country of origin: USA

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Fuzes

The Fuzes section is divided into the following categories:

- Base Detonating (BD) Fuzes
- Bomb Fuzes
- Guided Missile Fuzes
- Drone Fuzes
- Submunition Fuzes
- Grenade Fuzes
- Mine Fuzes
- Sabotage Fuzes
- Point Detonating (PD)
- Point Initiating Base Detonating (PIBD) Fuzes
- Proximity Fuzes
- Time Fuzes

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BD Fuzes

Base detonating (BD) fuzes are located in the base (rear) of the warheads used in projected and fired ammunition. They are commonly, but not exclusively, found in projectiles, rockets, and RPG ammunition. Fuzes found in the tail or rear of aerial bombs, guided missile warheads, drone warheads, and submunitions will be found in those corresponding fuze sections instead.

BD fuzes are particularly well suited to shaped charges, EFP warheads, thermobaric warheads, and APHE projectiles. Their most common method of functioning is impact-inertia, making them sensitive to movement; they often contain a self-destruct mechanism of some kind as well. As such, any ammunition using a BD fuze should automatically be treated with extreme caution.

Note that when a BD fuze also utilizes a point initiating element in the front or nose of the warhead, they are classified instead as Point Initiating Base Detonating (PIBD) fuzes and will be found in that section.

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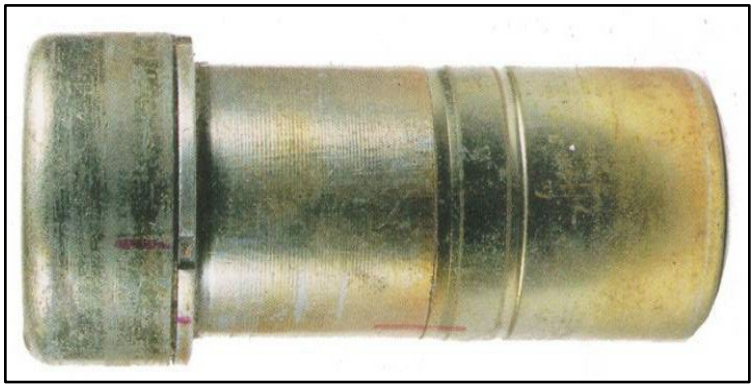
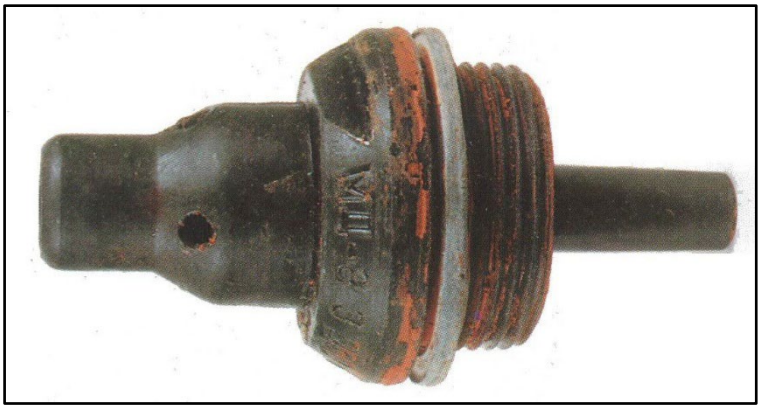
BD Fuzes

DK-2
(impact)
Diameter: 28.64mm
Length: 64.25mm
Note: Used in PG-2.
Country of origin: USSR



DK-4
(impact, pyrotechnic delay)
Diameter: 28.6mm
Length: 64.5mm
Note: Used in PG-2.
Country of origin: USSR

MD-5
(impact)
Diameter: 28.96mm
Length: 65.79mm
Exposed length: 34.8mm
Country of origin: USSR



MD-8
(impact)
Diameter: 34.15mm
Length: 47.35mm
Exposed length: 17.2mm
Note: Used in 57mm, 76mm, 85mm, 122mm and 152mm APHE projectiles.
Country of origin: USSR

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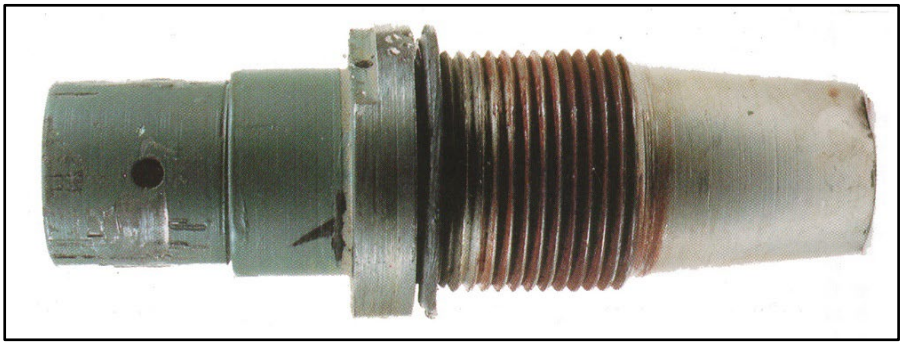
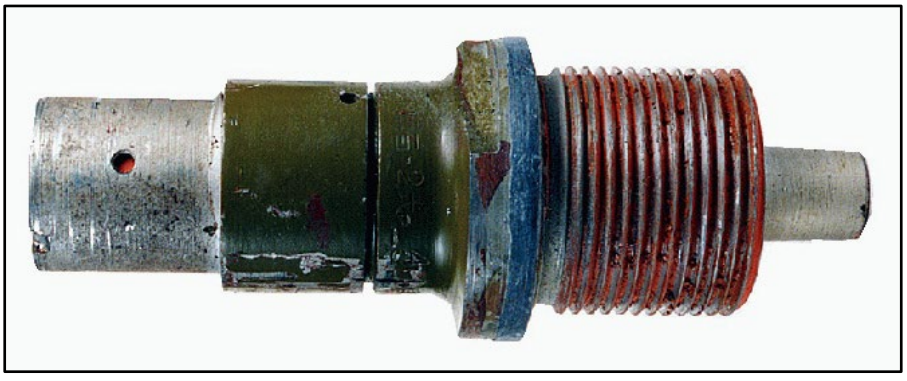
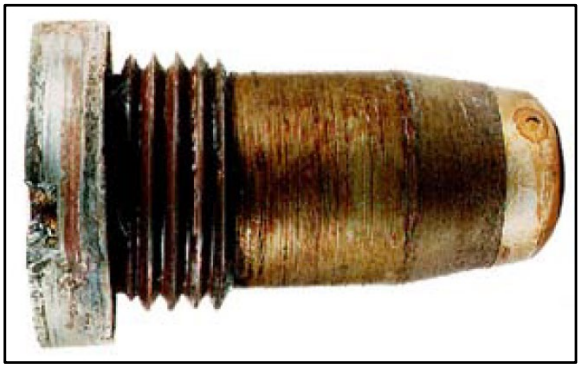
BD Fuzes



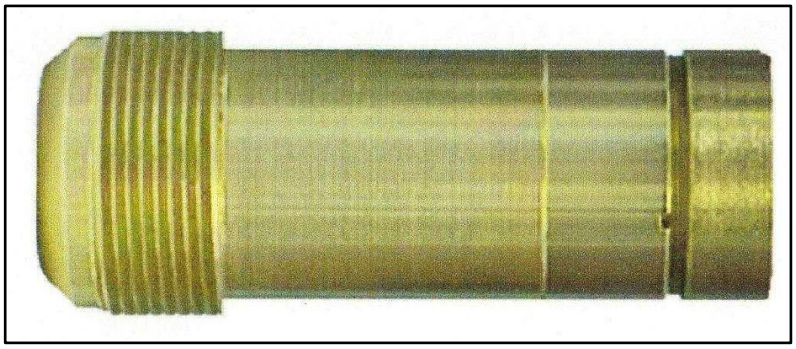
DBR
(impact)
Diameter: 40mm
Length: 107mm
Exposed length: 64mm
Country of origin: russia



DBR-2
(impact)
Diameter: 40mm
Length: 98mm
Exposed length: 56mm
Note: Used in 100mm and 130mm APHE projectiles.
Country of origin: russia



DBT
(impact)
Diameter: 65mm
Length: 113mm
Note: Used in concrete-piercing projectiles.
Country of origin: USSR



M578A1
(impact)
Diameter: 42.7mm
Length: 114.2mm
Exposed length: 10.6mm
Note: Used in the 105mm M393A3 projectiles.
Country of origin: USA

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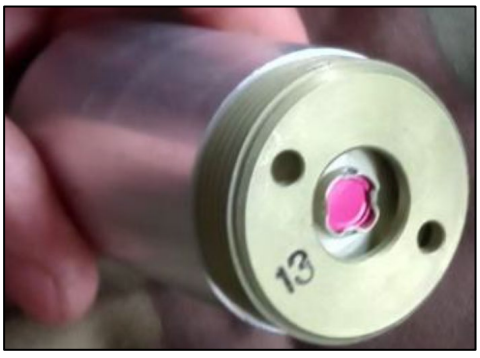
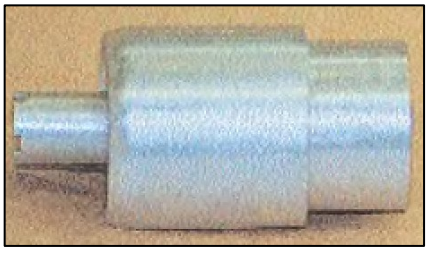
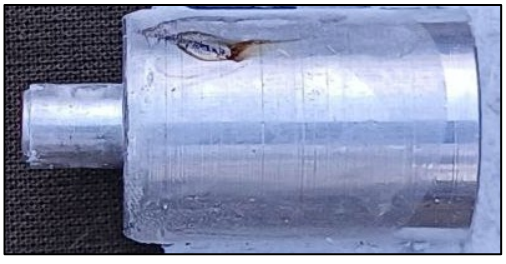
BD Fuzes



U-505
(impact, pyrotechnic delay)

Diameter: 37mm
Length: 62mm
Note: Used in the RShG-1, RShG-2, TBG-7L, TBG-7V and TBG-29V.
Country of origin: russia

U-535
(impact)
Diameter: 22mm
Length: 30mm

Note: Used with 43mm thermobaric projectiles.
Country of origin: russia

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Bomb Fuzes

This section contains fuzes used with all types of aerial bombs. Most bomb fuzes are installed in the nose or tail of their munitions, but some are internal.

Bomb fuzes, particularly those dropped from drones, usually have one or more safety pins, arming wires, arming pins, clips, etc. These are removed before flight or when the bomb is released from the airframe. Bomb fuzes used in aviation bombs and cluster bombs typically also receive power and/or a command signal from the aircraft before release in order to initiate the arming process. Some may have arming vanes on them that spin during free fall in order to complete the arming process.

The majority of bomb fuzes function upon impact with their targets or the surface of the earth; a short time delay function or self-destruct is also typical. They may be paired with a proximity sensor in order to give an airburst option. Assume that all bomb fuzes, particularly those used in drone bombs, are sensitive to movement until determined otherwise.

Note that there are also long-delay bomb fuzes in use which are designed to detonate days, or even weeks, after the bomb has been dropped – these fuzes normally possess an antidisturbance or antiwithdrawal feature designed to prevent EOD personnel from disarming them.

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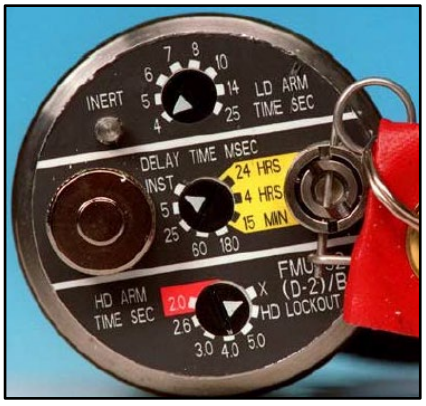
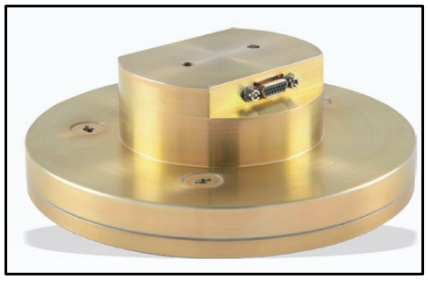
Bomb Fuzes



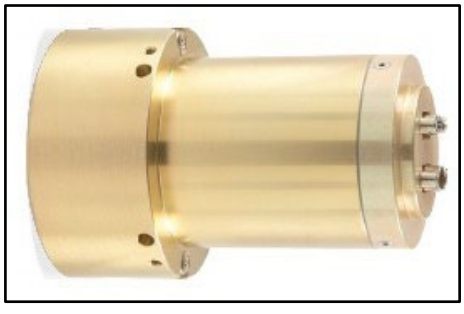
FMU-152 Series
(proximity, impact, electronic delay)
Diameter: 73mm
Length: 174mm
Country of origin: USA

DSU-33 Series
(proximity sensor)
Diameter: 141mm
Length: 318mm
Exposed length: 152mm

Note: Although these sensors do not contain explosives themselves, they are used together with fuzes such as the FMU-152 series.
Country of origin: USA



Fuze for MAM-L
(impact)
Diameter: 135mm
Length: 50mm
Country of origin: Turkey



Fuze for MAM-C
(impact)
Diameter: 62mm
Length: 100mm
Country of origin: Turkey

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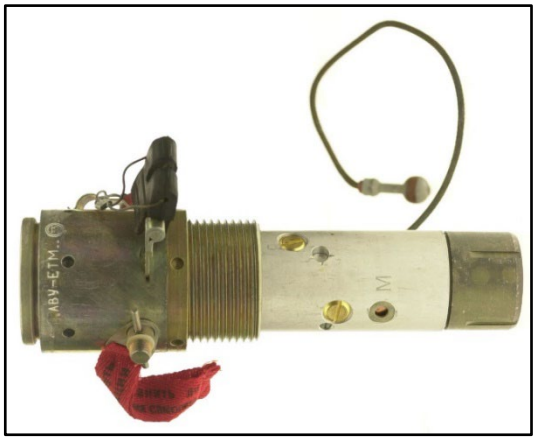
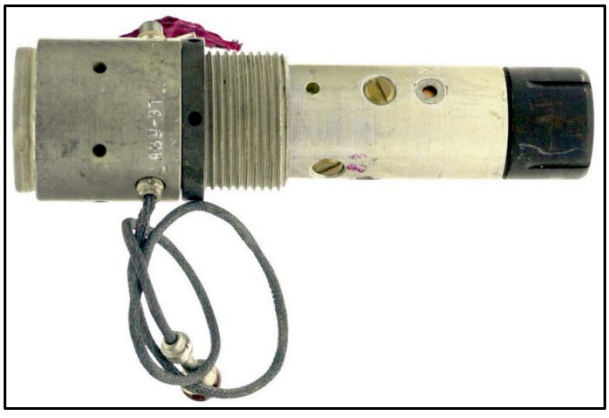
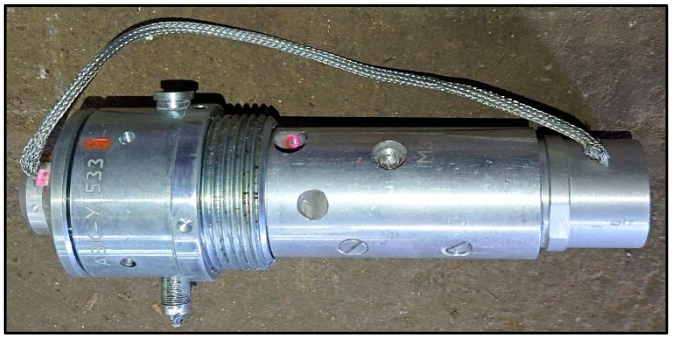
Bomb Fuzes



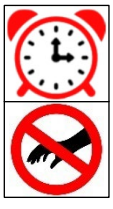
AVU-ETM
(impact, pyrotechnic delay)
Diameter: 60mm
Length: 209mm
Exposed length: 68mm
Country of origin: USSR



AVU-ET
(impact, pyrotechnic delay)
Diameter: 60mm
Length: 210mm
Exposed length: 68mm
Country of origin: USSR



AVK-U
(impact, pyrotechnic delay)
Diameter: ~56mm
Length: 205mm
Exposed length: 65mm
Country of origin: russia



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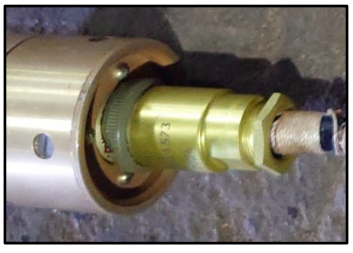
Bomb Fuzes

AVK-P
(impact, pyrotechnic delay)
Diameter: ~56mm
Length: ~130mm
Exposed length: 65mm
Country of origin: russia

Fuze for UMPB D-30SN
Diameter of body: 42mm
Length of body: 53mm
Country of origin: russia



AM-A
(impact)
Diameter: 29mm
Length: 63mm
Exposed length: 36mm
Country of origin: russia

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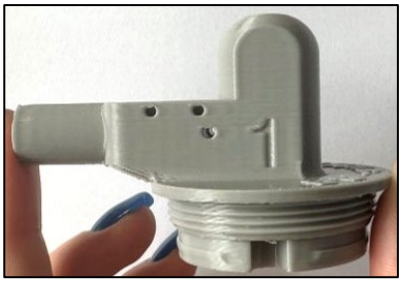
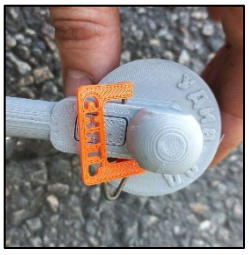
Bomb Fuzes

UDIV-DD
(impact)

Total height: 47.10mm
Exposed height: 25.59mm
Width: 47.87mm
Total length: 74.96mm
Exposed length: 60.90mm
Note: Designed to be used with PG-7 series' ammunition that has been modified as drone bombs or FPV drone warheads, but may be installed in other drone ammunition or warheads as well.
Country of origin: russia





PB-1U
(impact)

Diameter: 40mm
Length: 80mm
Exposed length: **INFORMATION NEEDED**
Note: This fuze is designed to be used with various projectiles and mortars in order to convert them into drone bombs.
Country of origin: Ukraine

PNI-1
(impact)

Diameter: **INFORMATION NEEDED**
Length: 125mm
Exposed length: **INFORMATION NEEDED**
Note: Normally used with FAB-8.5 drone bombs.
Country of origin: Ukraine

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Bomb Fuzes

A-133 and B-133
(impact)

Diameter: 42mm
Length: 77mm
Exposed length: 42mm
Note: These fuzes are designed to be used with the OFSP series of drone bombs, including when those bombs are repurposed as drone warheads. The A-133 and B-133 are identical except for their arming delay times. An extender may be attached by the user to add standoff distance.
Country of origin: russia

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Guided Missile Fuzes

This section contains fuzes used with guided missiles. The majority of these fuzes are internal, contained within the body of the missile. Due to the complexity of guided missiles the fuzes will often be integrated or connected with the power sources, onboard computers, Target Detection Devices (TDD), seeker sections, guidance sections, and other components of the missile.

A Safety and Arming (S&A) device may be utilized in order to add an additional level of safety; these devices manage the sometimes complex criteria needed to fully arm guided missile fuzes (acceleration forces, command signals, etc.). They are generally separate components from the missile's fuze, but in some cases the fuze and the S&A device are combined into one unit. In a tactical or field environment it is often impossible to determine whether or not the S&A device has completed all of its functions, so always assume that the fuzes have been armed until proven otherwise.

Note that in cases where they fail to detonate as designed, the warheads of large guided missiles are often ejected or separated upon impact. Despite being disconnected from the rest of the munition, their fuzes are often still attached to the warheads. They may still be functional, containing their own electrical or mechanical backup mechanisms – treat them with appropriate caution.

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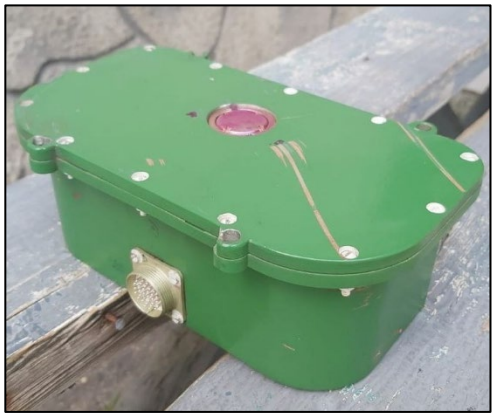
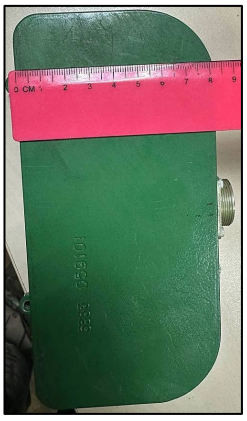
Guided Missile Fuzes



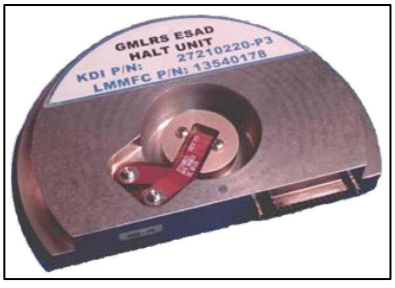


Fuze for 5V55

Height: 73mm
Length: 187mm
Minimum width: 82mm
Maximum width: 101mm
Country of origin: USSR/Ukraine

Fuze for Kh-47M2 "Dagger"

Diameter of body: ~60mm
Length of body: ~130mm
Country of origin: russia



GMLRS ESAD

Dimensions: **INFORMATION NEEDED**
Note: Used in the 227mm M30 missile.
Country of origin: USA

GMLRS ESAF
(proximity, impact)

Dimensions: **INFORMATION NEEDED**
Note: Used in the 227mm M30A1 and M31A1 missiles.
Country of origin: USA

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Drone Fuzes

This section contains fuzes used with drones. Generally speaking, fuzes for drones have many similarities with the fuzes used in guided missiles. They are often connected or integrated with the drone's control systems and sensors, they tend to be movement-sensitive due to impact or impact-inertia mechanisms, and many possess a self-destruct feature.

A key difference though is that drone fuzes often have a command detonation function. Even if a drone has crashed or been damaged, the operator may still have the ability to detonate it from afar – take appropriate precautions and do not approach.

Numerous multi-function electronic initiators have been developed since the full-scale invasion of 2022. In addition to the aforementioned features, these devices often contain magnetic sensors. Because of their versatility they are sometimes used with the warheads of kamikaze drones – within this guide they will be found in the Sabotage Devices section unless specifically designed for use with drones.

Note that in cases where they fail to detonate as designed, the warheads of aerial drones are often ejected or separated upon impact. Despite being disconnected from the rest of the munition, their fuzes are often still attached to the warheads. They may still be functional, containing their own electrical or mechanical backup mechanisms – treat them with appropriate caution.

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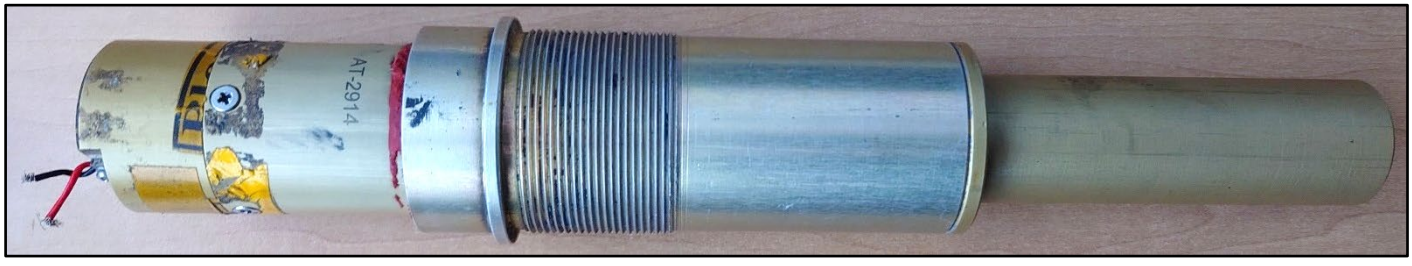
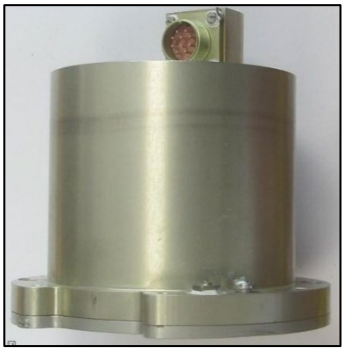
Drone Fuzes

Electromechanical impact fuze for Shahed / Geran Drones (impact)

Diameter: 43mm
Length: 275mm
Exposed length: 185.5mm
Note: This fuze is used with the warheads of Shahed-101/107 series drones, the Shahed-131 drone, and the HE Penetrator Warheads used in Shahed-136 / Geran-2 drones. .
Country of origin: Iran





493M
(impact, pyrotechnic delay)

Diameter of body: ~85mm
Length: ~105mm
Note: This fuze is used with the BST-52 and BSF warheads for the Shahed-136 / Geran-2 UAV.
Country of origin: russia

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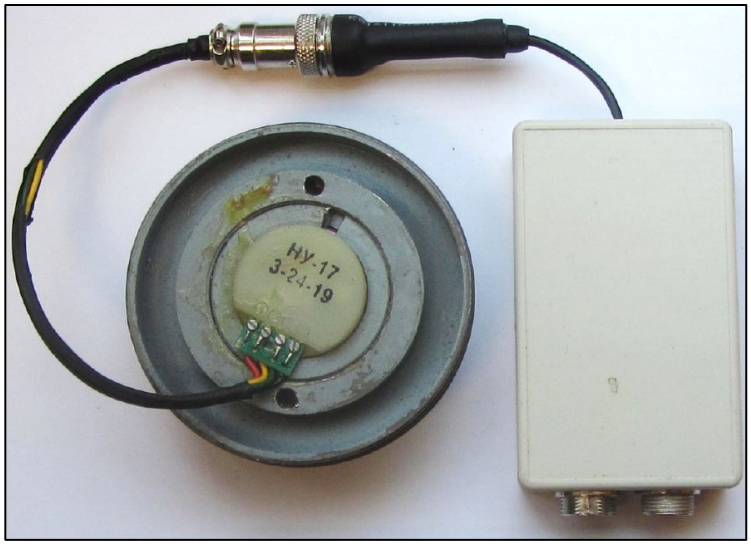
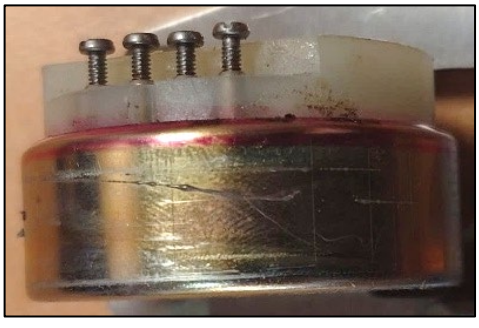
Drone Fuzes

Shahed impact sensors
(impact)
Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**

Note: These impact sensors are used together with the UZ fuze on some variants of the Shahed-136 drones.
Country of origin: russia



NU-17
(impact, command)
Diameter: 37mm
Thickness: 20mm
Exposed length: 4mm
Note: This fuze is used with the TBBCh-50M and enhanced thermobaric warheads for the Shahed-136 / Geran-2 UAV.
Country of origin: russia



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Drone Fuzes

UZ
(impact)

Diameter of body: ~45mm
Length: ~95mm
Exposed length: ~65mm
Note: This fuze is used in Lancet drones and with OFZBCh-50 warheads for the Shahed-136 / Geran-2 UAV.
Country of origin: russia

UZ-2
(impact, command)

Diameter of body: 55mm
Length: 76mm
Exposed length: **INFORMATION NEEDED**
Note: This fuze is used in the warheads of Lightning-1/Lightning-2, Gerbera, and FPV drones.
Country of origin: russia

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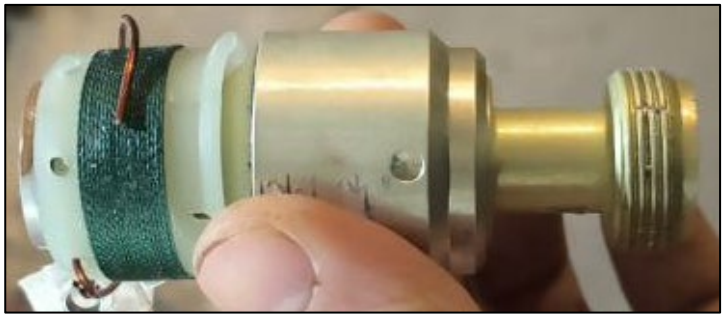
Drone Fuzes



VM-KP
(impact)

Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Note: This fuze is designed to be used with the OFBCh-3 warhead.
Country of origin: russia

P-133
(impact)
Diameter: 42mm
Length: 59mm

Exposed length: **INFORMATION NEEDED**
Country of origin: russia

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Drone Fuzes

P-795
(impact)
Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Note: This fuze is designed to be used with the KOZBCh-1.8 warhead.
Country of origin: russia

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Drone Fuzes

B-795

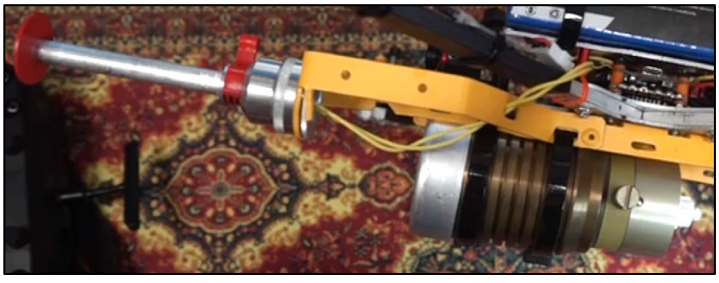
(command)

Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Note: This fuze is designed to be used with the OFBCh-0.8 warhead.
Country of origin: russia

B919

(impact, command)

Diameter of body: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Note: This fuze is designed to be used with the OFBCh-0.4 and OFBCh-0.8 warheads. It may be used with or without an impact senor.
Country of origin: russia



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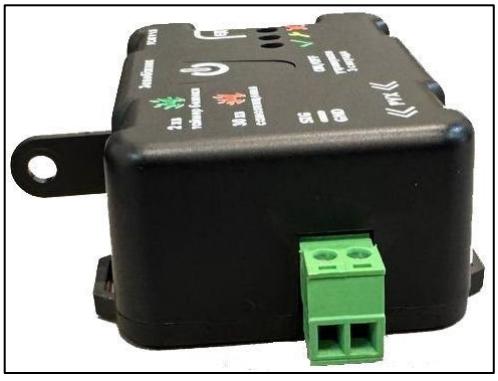
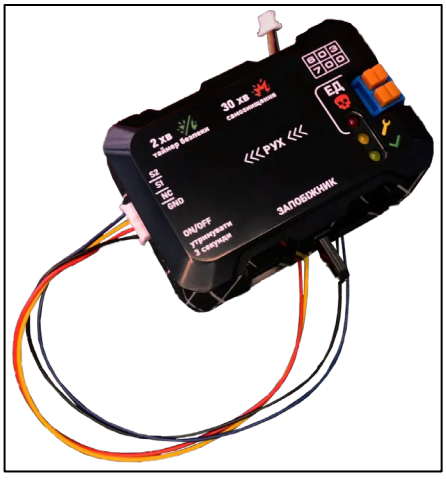
Drone Fuzes

FCAT v. 1.0
(impact, command)
Length: 63mm
Width: 46mm
Thickness: 26mm
Country of origin: Ukraine





Mariupol Series
(impact, command)
Length: 63mm
Width: 43mm
Thickness: 23mm
Note: The various models in this series of initiators have different self-destruct times, arming delay times, and levels of sensitivity.
Country of origin: Ukraine

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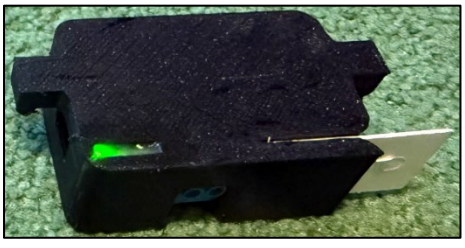
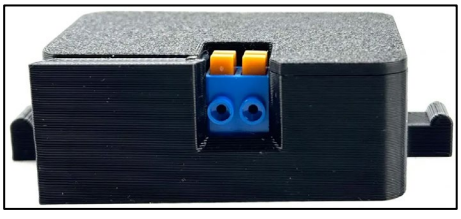
Drone Fuzes

Kherson v1
(impact, command)
Length: 67mm
Width: 47mm
Thickness: 24mm
Country of origin: Ukraine

Opera
(impact, command)
Length: 50mm
Width: 46mm
Thickness: 28mm
Country of origin: Ukraine





V5
(impact, command)
Length: 78mm
Width: 41mm
Thickness: 22mm
Country of origin: Ukraine

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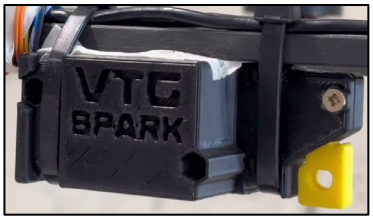
Drone Fuzes



VTG Spark
(impact, command, antidisturbance)
Length: 69mm
Width: 33mm
Thickness: 29mm

Note: When the drone has been landed and placed in “mining mode”, any vibration or movement will initiate the VTG Spark.
Country of origin: Ukraine

ORK V4
(impact, command)
Length: 52.6mm
Width: 41.8mm
Thickness: 23mm
Country of origin: Ukraine

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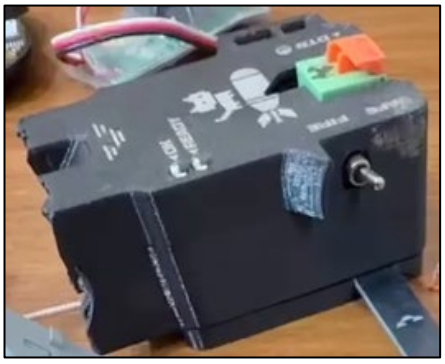
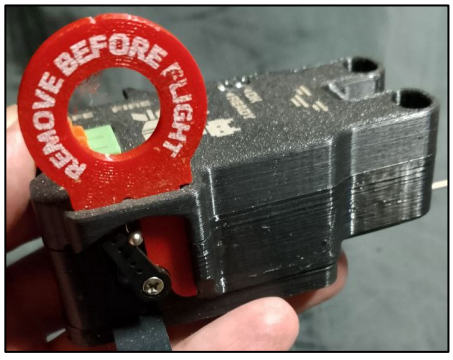
Drone Fuzes

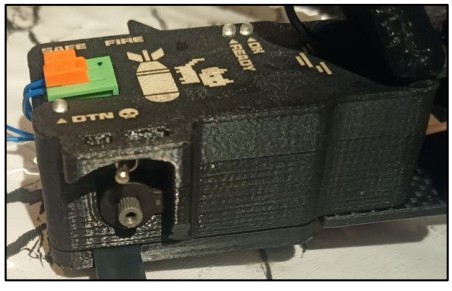


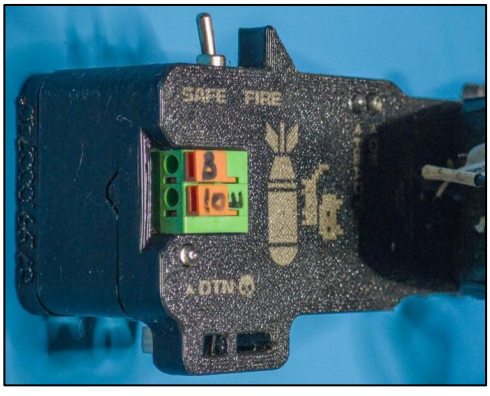
IV 001

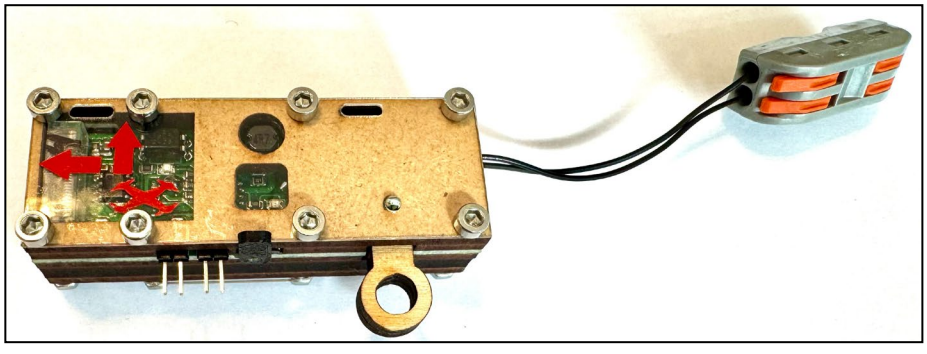
(impact, command, antidisturbance)

Length: 53mm
Width: 36mm
Thickness: 28mm
Note: When the drone has been landed and placed in “mining mode”, any vibration or movement will initiate the IV 001.
Country of origin: Ukraine





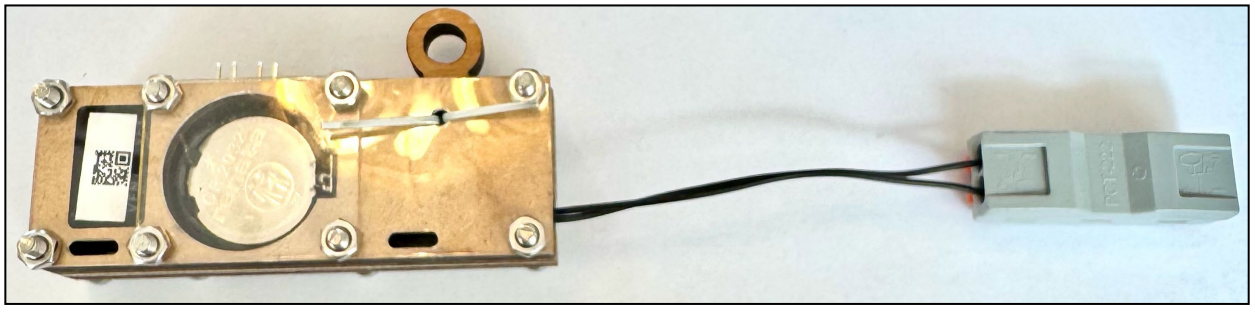




T202ADV

(impact, command)

Length of body: 76mm
Width of body: 26.7mm
Thickness of body: 19.7mm
Country of origin: Ukraine



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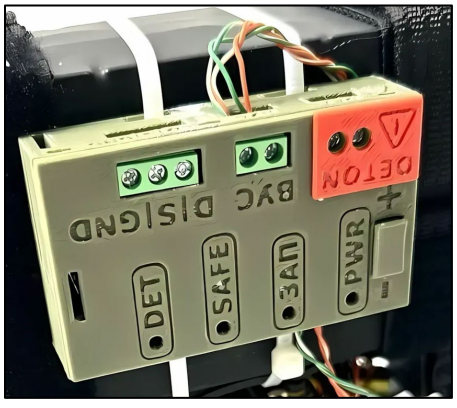
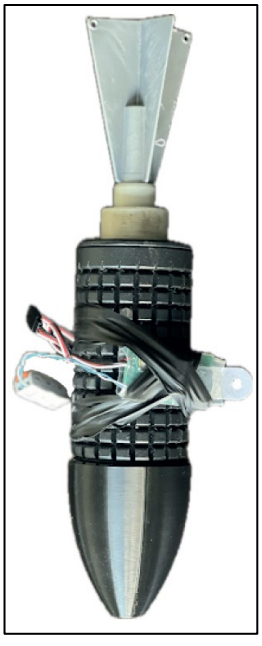
Drone Fuzes

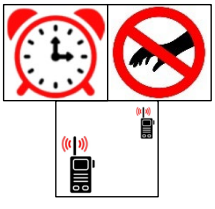
DSS K2
(impact, command)
Length: 52mm
Width: 43mm
Thickness: 20mm
Country of origin: Ukraine

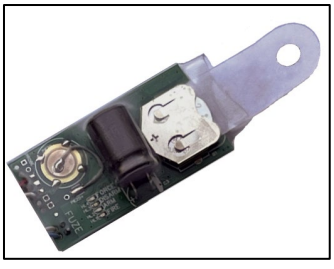


Predator Eyes (PE1)
(impact, command)
Length: 70mm
Width: 43mm
Thickness: 20mm
Country of origin: Ukraine



Kolibri P / Peter Pan
(impact, command)
Length: 58mm
Width: 32mm
Thickness: 18mm
Note: This fuze is designed to also be used with drone bombs.
Country of origin: Ukraine





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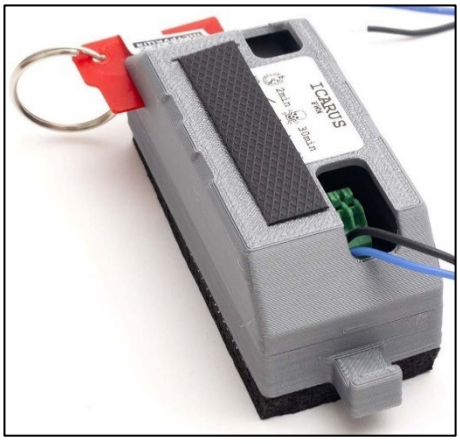
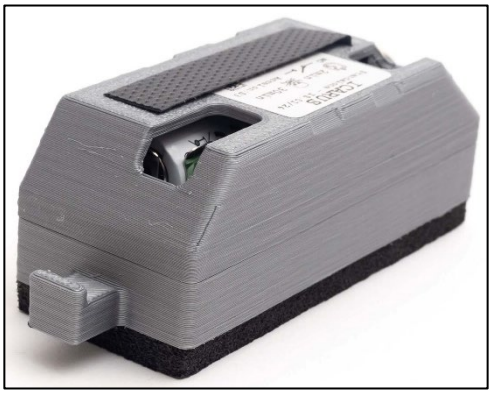
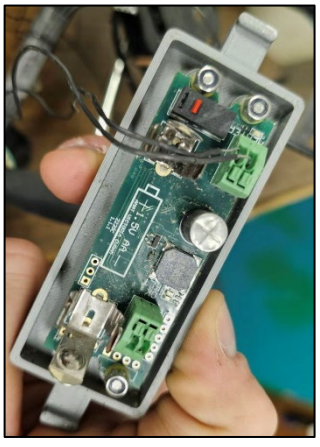
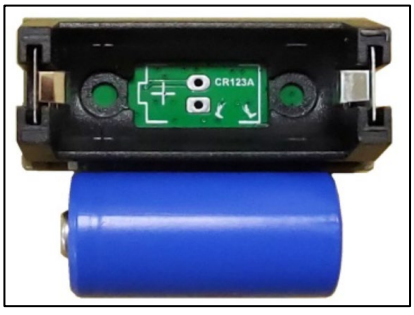
Drone Fuzes



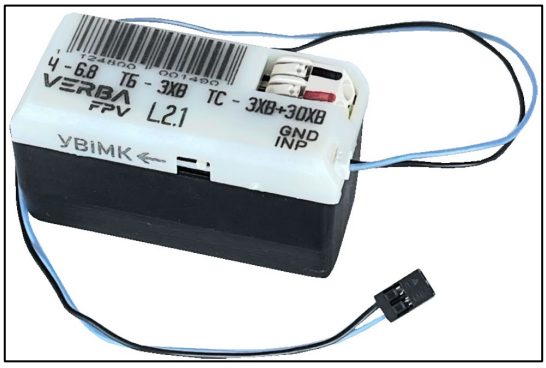
Ikar Series / Icarus Series
(impact, command)
Length: 108mm
Width: 45mm
Thickness: 35mm
Country of origin: Ukraine







VERBA FPV Series
(impact, command)
Length: 48mm
Width: 26mm
Thickness: 21mm
Note: The various models in this series of initiators have different self-destruct times, arming delay times, and levels of sensitivity.
Country of origin: Ukraine



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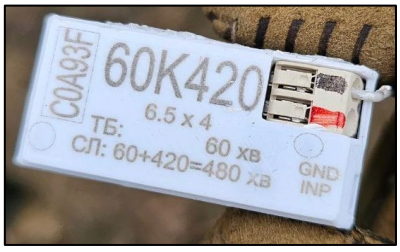
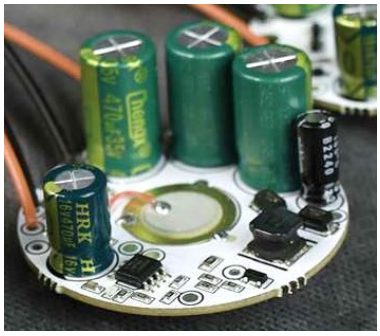
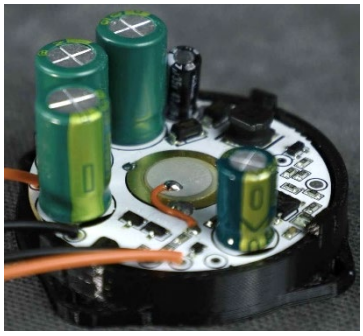
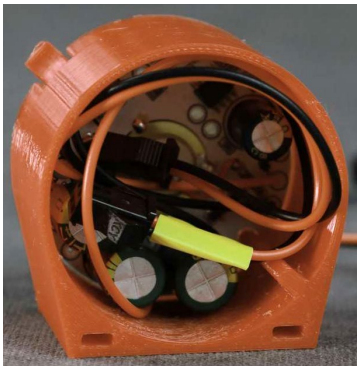


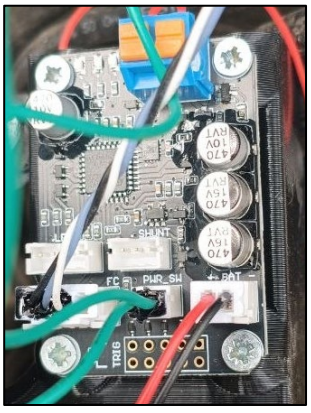
Johnny-K Series
(impact, command)
Length: 46mm
Width:26mm
Thickness: 21mm
Note: The various models in this series of initiators have different self-destruct times, arming delay times, and levels of sensitivity.
Country of origin: Ukraine

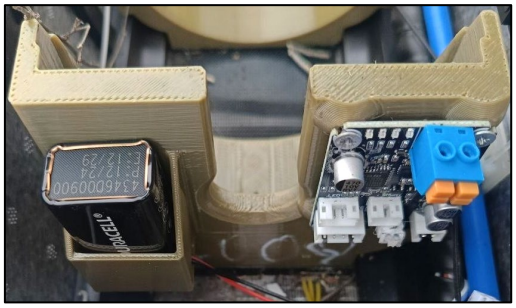




Banderyk
(impact, command)
Diameter: 42mm
Thickness: 22mm
Note: This fuze is designed to also be used with drone bombs.
Country of origin: Ukraine







Viva 1.0
(impact, command)
Length: **INFORMATION NEEDED**
Width: **INFORMATION NEEDED**
Thickness: **INFORMATION NEEDED**
Note: This fuze is used in the Hornet / “Martian-2” drones.
Country of origin: Ukraine

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Drone Fuzes

VP-2a pro
(impact, command, antidisturbance)
Total length: 62mm
Length of body: 45.5mm
Width: 18.5mm
Thickness: 27.4mm
Note: If the drone experiences a soft landing, the antidisturbance feature will activate and any vibration or movement will initiate the VP-2a pro.
Country of origin: Ukraine

Firestarter V1.3
(impact)
Length: **INFORMATION NEEDED**
Width: **INFORMATION NEEDED**
Thickness: **INFORMATION NEEDED**
Country of origin: Ukraine

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Submunition Fuzes

This section contains fuzes that are used with submunitions – both immediate action types and scatterable mines. For a variety of reasons, a high initial failure rate is normally associated with these fuzes (20-30%). However, due to backup mechanisms, manufacturing flaws, and environmental factors they tend to remain extremely dangerous for long periods of time.

The fuzes used with immediate action submunitions are usually designed to function upon impact with their targets or the surface of the earth; a short time delay function or self-destruct is also typical. Even if they have initially failed, assume that these fuzes are sensitive to movement.

The fuzes used with scatterable mines often have the same characteristics as landmine fuzes. Until you determine otherwise, assume that they are sensitive to movement, have a self destruct mechanism with a long delay, and possess a magnetic influence sensor.

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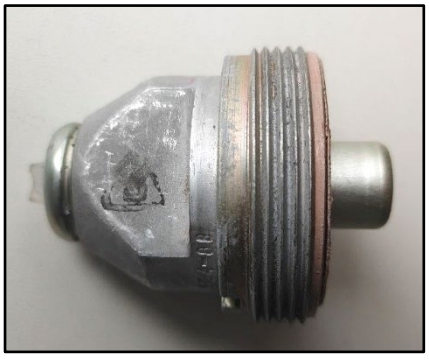
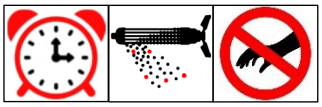
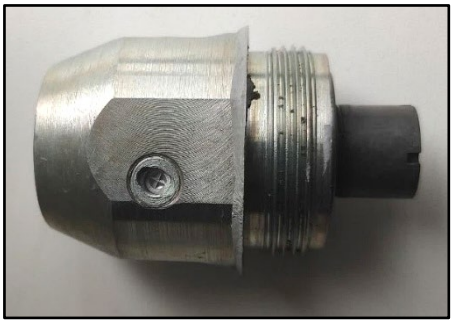
Submunition Fuzes

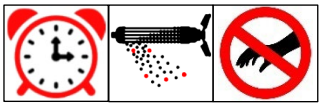


9E246M
(impact, pyrotechnic delay)
Diameter: 49.6mm
Length without detonator: 46mm
Country of origin: USSR



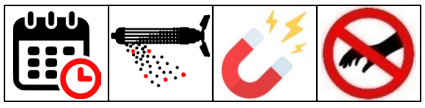


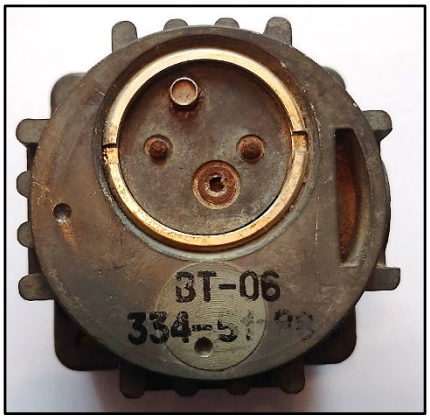
9E237
(impact, pyrotechnic delay)
Diameter: 49.95mm
Length without detonator: 58.3mm
Country of origin: USSR

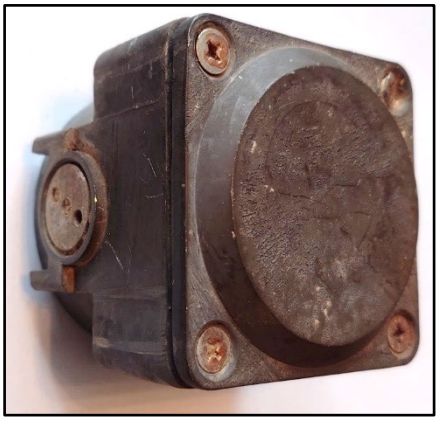


VT-06
(magnetic-influence)
Height of body: 76mm
Width of body: 76mm

Thickness: 69mm
Note: Used with the PTM-3 scatterable mines.
Country of origin: russia







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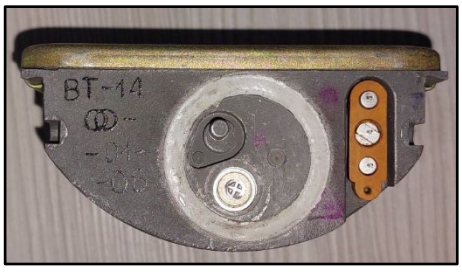
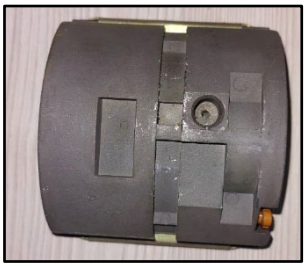
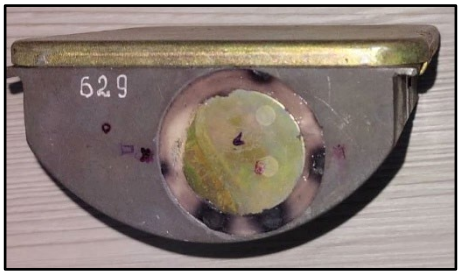
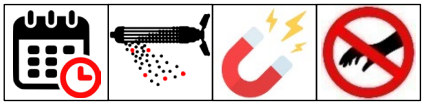


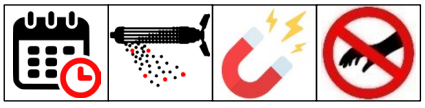




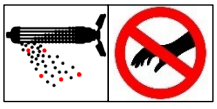
VT-14
(magnetic-influence)
Length: **INFORMATION NEEDED**
Width: ~110mm
Height: ~55mm
Note: Used with the PTM-4 scatterable mines.
Country of origin: russia



VT-14M
(magnetic-influence)
Length: 88mm
Width: 100mm
Height: 49mm
Note: Used with the PTM-4M scatterable mines.
Country of origin: russia



136V3
(impact)
Diameter of body: 20mm
Length: 56mm
Note: Used in submunitions from the Kh-101, Kh-69, and Kh-59 MK2 guided missiles.
Country of origin: russia



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Submunition Fuzes

9E371M

Diameter: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Note: Used with the 9N277 submunition.

Country of origin: USSR

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Grenade Fuzes

This section contains fuzes used with hand grenades. In most cases a safety pin is pulled by the user, and a fly-off lever or “spoon” is released when the grenade is thrown. Many modern grenade fuzes have a secondary safety pin or clip that must be removed as well. Depending on the type of grenade, they may be designed to either ignite or detonate the grenade’s main charge.

The majority of grenade fuzes utilize a pyrotechnic delay, which is initiated by a spring-loaded mechanism activated by the user. These mechanisms can become temporarily stuck due to manufacturing defects, age, or debris and must be treated with extreme caution. Although the majority of grenades have delay times of 2-5 seconds, there are exceptions with delays as low as 0.7 seconds. Likewise, delay times may be much longer if fuzes are old or have been exposed to moisture.

Some hand grenades have impact mechanisms instead of or in addition to pyrotechnic delays – these impact mechanisms are designed to be “all-way acting” and are extremely sensitive to movement in any direction.

Note that grenade fuzes are often repurposed for use in drone bombs and as boobytrap devices; additional precautions are necessary in these cases, and they should be treated as unsafe to handle even if it appears that they still have their safety pins installed.

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Grenade Fuzes

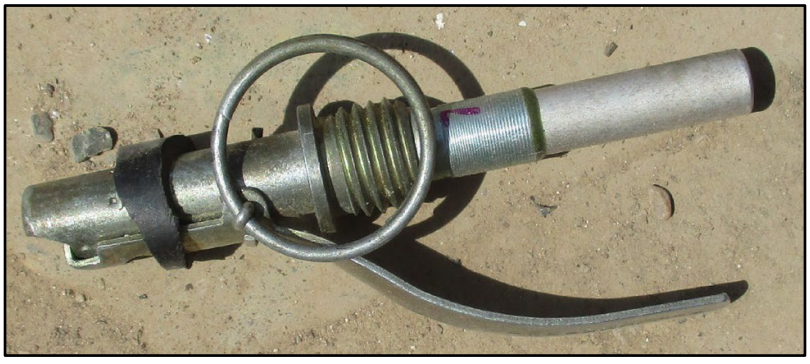
UDZ

(impact, pyrotechnic delay)

Dimensions: 43x58x90mm

Note: Designed for use with the RGO and RGN hand grenades. This fuze is also often used with drone bombs and the warheads of aerial drones; it may or may not be modified when used in these ways.

Country of origin: USSR



UZRGM and UZRGM-2

(pyrotechnic delay)

Width: 18mm

Length: 98mm

Country of origin: USSR

K-510

(pyrotechnic delay)

Length: ~90mm

Note: Used with the K-51 grenade.

Country of origin: russia

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Grenade Fuzes

DM82A3
(pyrotechnic delay)
Width: 22mm
Length: 81mm
Note: Used with the DM51 grenades.
Country of origin: Germany

JVA 1634
(pyrotechnic delay)
Width: 18mm
Length: 75.5mm
Note: Used with the Sirpalekäsikranaatti M/50 grenade.
Country of origin: Finland

M204A2
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the MK2 MOD 44 grenade.
Country of origin: Turkey

AF11 (FD-1)
(pyrotechnic delay)
Width: 47mm
Length: 85mm
Note: Used with the GHO-1 grenade.
Country of origin: Bulgaria

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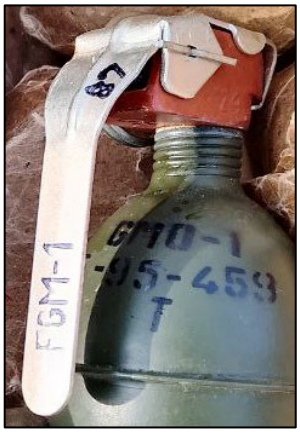
Grenade Fuzes

M72A1
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the M72 grenade.
Country of origin: Belgium



FGM-1
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the GMO-1 / M92 and GMM grenades.
Country of origin: Romania

FG-MR
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the F-1 and RG-42 grenades.
Country of origin: Romania

JVA 1665
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the JVA 0406 grenade.
Country of origin: Finland

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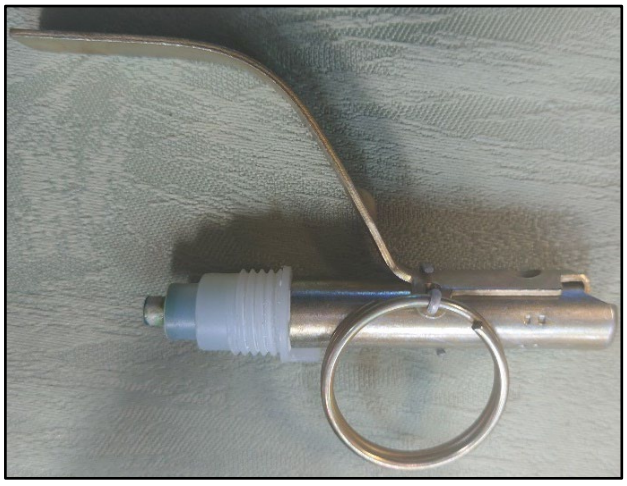
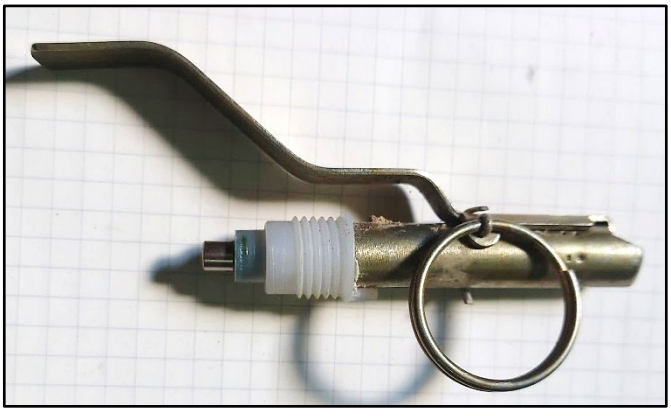
Grenade Fuzes



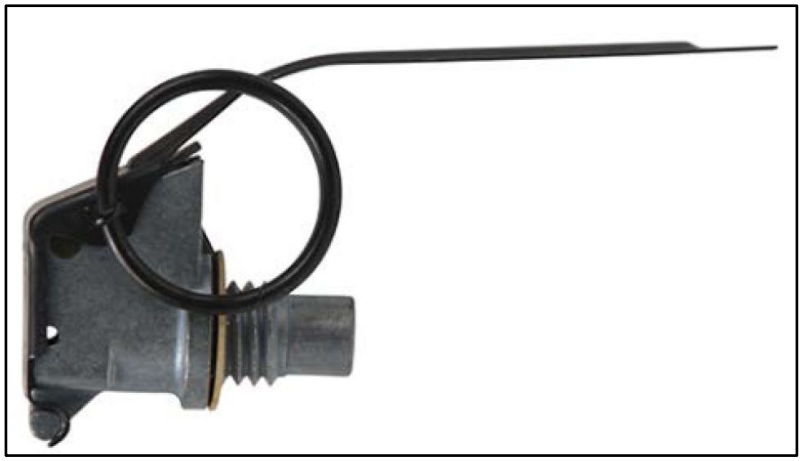
U-517M
(pyrotechnic delay)

Width: 10mm
Total length: 95mm
Length of body: 73mm
Note: Used with the RGR, RDG-M, and Zarya-3 grenades.
Country of origin: russia



U-515M
(pyrotechnic delay)

Width: 10mm
Total length: ~100mm
Length of body: 70mm
Note: Used with the Zarya-3 grenade.
Country of origin: russia



M201A1
(pyrotechnic delay)

Total length: 99mm
Length of body: 41mm
Exposed length: 21mm
Note: Used with the M18 grenade.
Country of origin: USA

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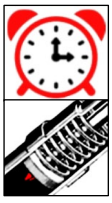
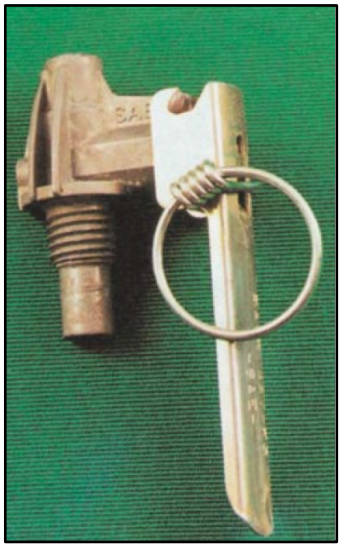
Grenade Fuzes

Mle F3
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the OF 37 grenades.
Country of origin: France

Mle F6A
(pyrotechnic delay)
Total length: 115mm
Length of body: 68mm
Width: 30mm
Note: Used with X F1 grenades.
Country of origin: France





Mle F10
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: 90mm
Note: Used with the GR MA FUM 56 grenades.
Country of origin: France

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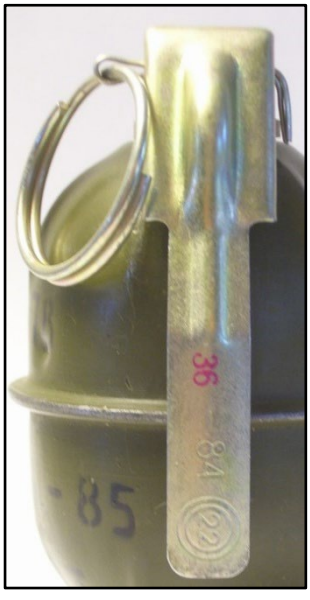
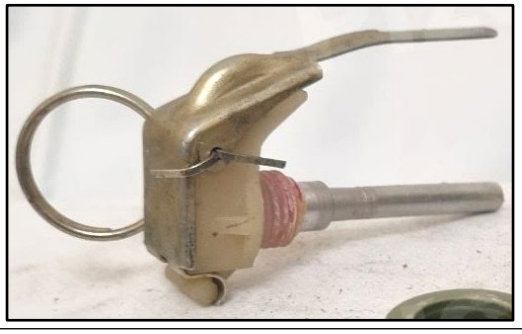
Grenade Fuzes

Mle F13
(pyrotechnic delay)
Width: 21mm
Length: **INFORMATION NEEDED**
Note: Used with the OF F1A grenades.
Country of origin: France



DVM
(pyrotechnic delay)
Width: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the plastic-bodied RGD-5 and the RGO-78.
Country of origin: Bulgaria



M213
(pyrotechnic delay)
Width: 84.6mm
Exposed length: ~23mm
Note: Used with the M67 grenade.
Country of origin: USA

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Mine Fuzes

This section contains fuzes used with land mines, sea/river mines, and some special mines. Common methods of initiation include: pressure, tilt-rod, tripwire (pull), tripwire (tension-release), and magnetic influence. Seismic influence and breakwire fuzes are less common, but still in use.

Many fuzes have more than one method of initiation. Furthermore, short delay self-destruct mechanisms, long delay self-destruct mechanisms, and arming delay mechanisms which can be used as an improvised self-destruct feature are all very common in landmine fuzes.

Note that although some mine fuzes are specifically designed to be “anti-vehicle”, many of them are sensitive enough to be set off by a person and should be treated with the appropriate caution. Additionally, a large number contain cocked firing pins which can become stuck when the fuzes are damaged or fail to function as designed – follow the appropriate precautions accordingly.

Numerous multi-function electronic initiators have been developed since the full-scale invasion of 2022. Because of their versatility they may sometimes be used with conventional landmines, particularly as a boobytrap device. However, unless specifically designed for use with a landmine, they will be found in the Sabotage Devices section.

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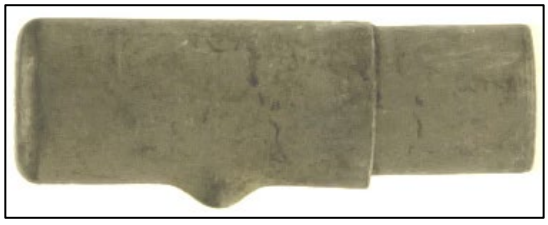
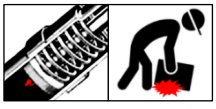
Mine Fuzes

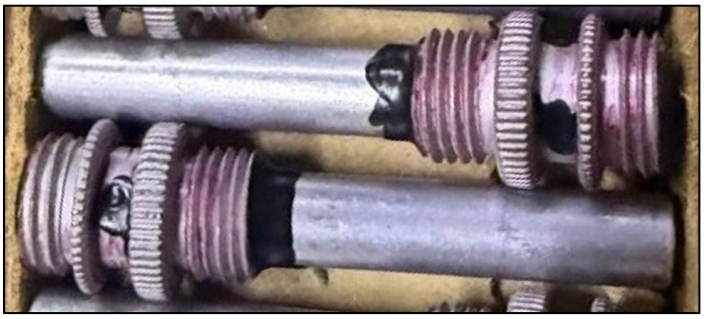


MV-5
(pressure-activated)
Diameter: 13mm
Length without detonator: 43mm
Note: This fuze is designed to be used with older antitank mines; it has also been used in improvised antipersonnel mines.
Country of origin: USSR

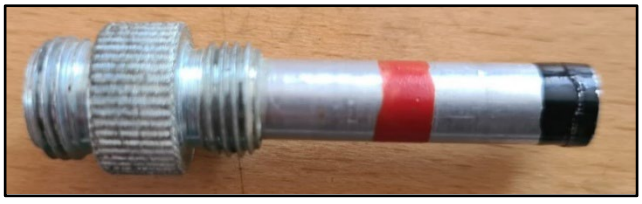


MD-2
(non-electric detonator)

Bushing diameter: 13mm
Length: 52-56mm
Country of origin: USSR



MD-5M
(non-electric detonator)
Diameter: 13.9mm
Length: 46.5mm
Country of origin: USSR



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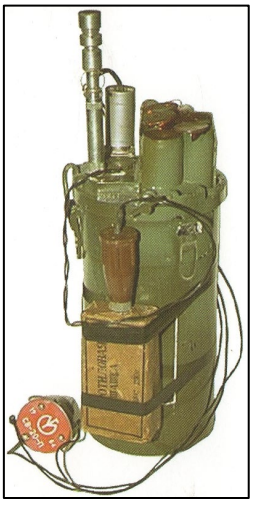
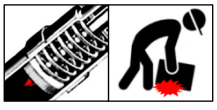
Mine Fuzes

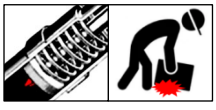
NVU-P "Okhota"
(seismic-influence)
Diameter: 155mm
Height: 360mm
Note: This device may be connected to up to 5 landmines. Additionally, an explosive charge may be attached to the device itself. A MUV-series fuze is used normally used as the arming delay mechanism.
Country of origin: USSR



MVM
(pressure-activated)
Diameter: 81mm
Height: 45mm
Note: Used in TM-46 and TMN-46 anti-tank mines.
Country of origin: USSR



MVZ-57
(pressure-activated)
Diameter: 89mm
Height: 55mm
Note: Used in TM-57 antitank landmines.
Country of origin: USSR



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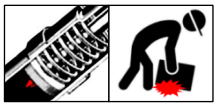
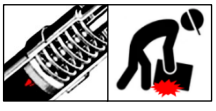
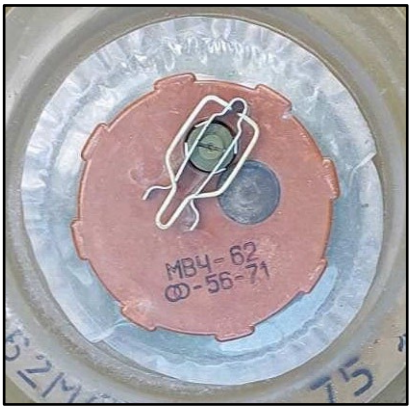
Mine Fuzes

MVP-62
(pressure-activated)
Diameter: 125mm
Height: 86mm
Note: Used in TM-62 series antitank mines.
Warning: Minimal metal fuze.
Country of origin: USSR

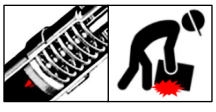


MVP-62M
(pressure-activated)
Diameter: 125mm
Height: 90mm
Note: Used in TM-62 series antitank mines.
Warning: Minimal metal fuze.
Country of origin: russia





MVCh-62
(pressure-activated)
Diameter: 135mm
Height: 60mm
Note: Used in TM-62 series antitank mines.
Country of origin: USSR



MVN-72
(magnetic influence)
Diameter: 125mm
Height: 96mm
Country of origin: USSR

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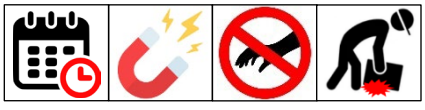
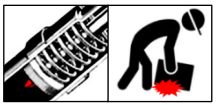
Mine Fuzes

MVN-80
(magnetic influence and pressure-activated)
Diameter: 128.5mm
Height: 97mm
Country of origin: russia

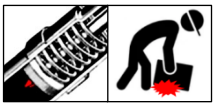
ZN-97.1
(magnetic-influence)
Diameter: 163mm
Height: 90mm
Country of origin: Poland



VPDM-1M
(tilt rod)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Used with the PDM-1M anti-landing mine.
Country of origin: russia



MVSh-57
(tilt rod)
Diameter: 80mm
Length: 178mm
Note: Used with the TM-57 antitank mine.
Country of origin: USSR



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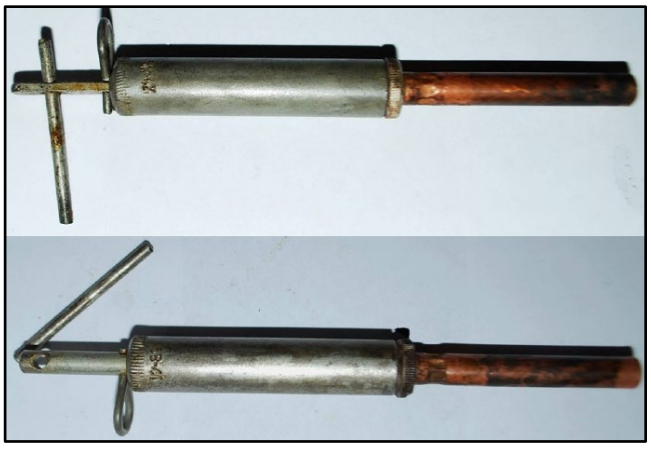
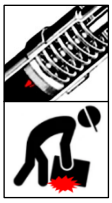
Mine Fuzes

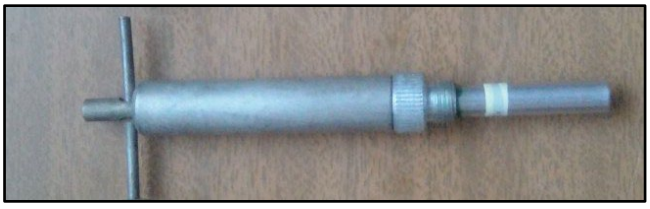


MUV

(pull, pressure, or tension-release)

Diameter: 12.3mm
Length (without detonator): 74mm
Note: May have a plastic body.
Country of origin: USSR

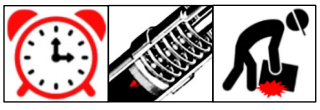




MUV-2

(pull/pressure)

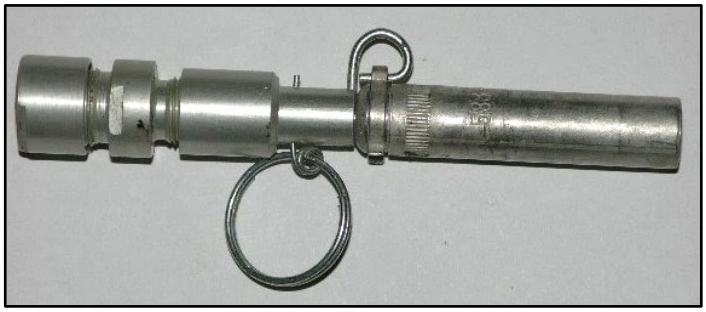
Diameter: 12.3mm
Length (without detonator): 86mm
Country of origin: USSR



MUV-3

(pull/pressure)

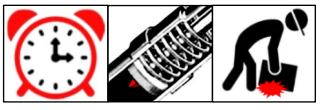
Diameter: 12.3mm
Length (without detonator): 86mm
Country of origin: USSR



MUV-4

(pull/pressure)

Diameter: 17mm
Length: 113mm
Note: May have a plastic body.
Country of origin: USSR



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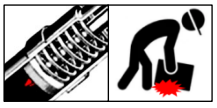
Mine Fuzes

VPF
(pull)
Diameter: 12mm
Length: 77mm
Country of origin: USSR



MVE-72
(breakwire)
Diameter: 61mm
Length: 145mm
Note: Has approximately 60 meters of breakwire.
Country of origin: USSR

MVE-92
(breakwire)
Diameter: 86mm
Length: 50mm
Note: Has approximately 80 meters of breakwire.
Country of origin: USSR

MVE-NS
(breakwire and antidisturbance)
Power unit:
Length: 90mm
Width: 58mm
Height: 23mm
Initiating unit:
Diameter: 31mm
Length: 90mm
Note: Has approximately 40 meters of breakwire.
Country of origin: USSR

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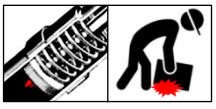
Mine Fuzes

M606
(pressure-activated)
Diameter: 254mm
Height: 68.6mm

Note: Used in the M19 antitank landmines.
Country of origin: USA

Mintändare m/47
(pressure-activated)
Diameter: **INFORMATION NEEDED**
Height: 69mm
Country of origin: Sweden



M603
(pressure-activated)
Diameter: 29.7mm
Height: 28.9mm
Country of origin: USA

UTMAH-4
(pressure-activated)
Diameter: 38mm
Height: 55mm
Country of origin: Former Yugoslavia

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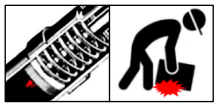
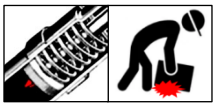
Mine Fuzes

M/66
(pressure-activated)
Diameter: 30mm
Length without detonator: 37mm
Note: Used in the Pansermine M/56 antitank landmines.
Country of origin: Denmark

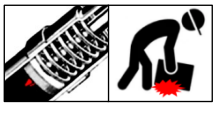
ZK-1
(pressure-activated and pressure-release)
Diameter: 27mm
Length without detonator: 68mm
Note: Used in the PMK-1 special mine.
Country of origin: Poland



P-62
(pressure-activated)
Diameter: **INFORMATION NEEDED**
Height: **INFORMATION NEEDED**
Country of origin: Romania



ATM-01TAC
(pressure-activated)
Diameter: 150mm
Height: 92mm
Country of origin: Bulgaria



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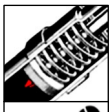
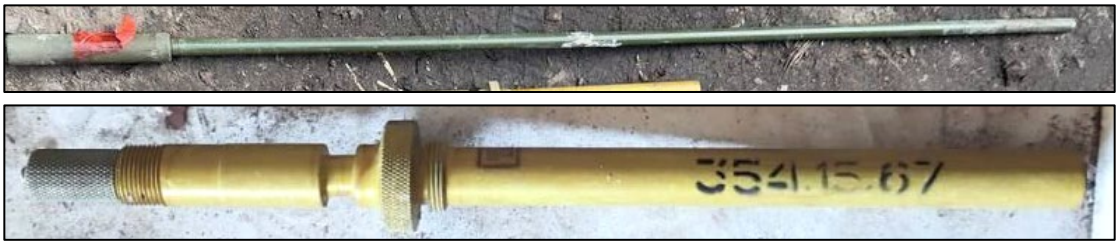
Mine Fuzes

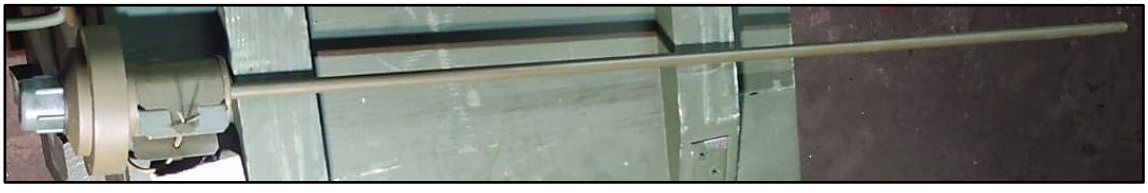
“81式” Type 81
(pressure-activated)
Diameter: **INFORMATION NEEDED**
Height: **INFORMATION NEEDED**
Note: Used in the “81年式塑膠反坦克地雷” Type 81 Plastic Antitank Mine.
Country of origin: China





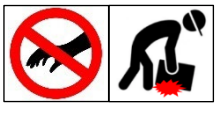
MZP
(tilt rod)
Diameter: **INFORMATION NEEDED**
Length without detonator: 944mm
Length with detonator: 996mm

Note: Used in the UMK antitank landmines.
Country of origin: Poland



M607
(tilt rod)
Diameter: 71mm
Length of body: 107mm

Note: Used in the M21 antitank landmines.
Country of origin: USA



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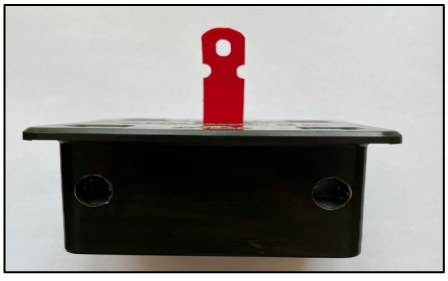
Mine Fuzes

PPTM
(magnetic influence)

Note: This fuze is designed for use with the PTM-U anti-tank landmine, developed for deployment from large UAVs.



Total length: 79.2mm
Total width: 79.15mm
Thickness: 3.32 mm
Country of origin: Ukraine

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Sabotage Devices

Sabotage devices are designed to initiate emplaced demolition or incendiary charges. They are usually based on a mechanical or electrical timer, but command initiation, either wired or wireless, may also be used. As the charges are usually emplaced to destroy critical targets (bridges, roads, installations, etc.) anti-disturbance, anti-handling, and anti-withdrawal features are often incorporated to prevent EOD personnel from disarming these devices.

Numerous multi-function electronic initiators have been developed since the full-scale invasion of 2022. In addition to the aforementioned features, these devices often contain magnetic sensors. Because of their versatility they may sometimes be used with conventional landmines, with the warheads of kamikaze drones or in the scatterable mines dropped from drones. Unless specifically designed for those other roles, they will be found in this section.

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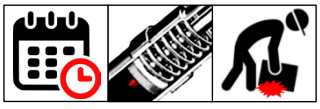
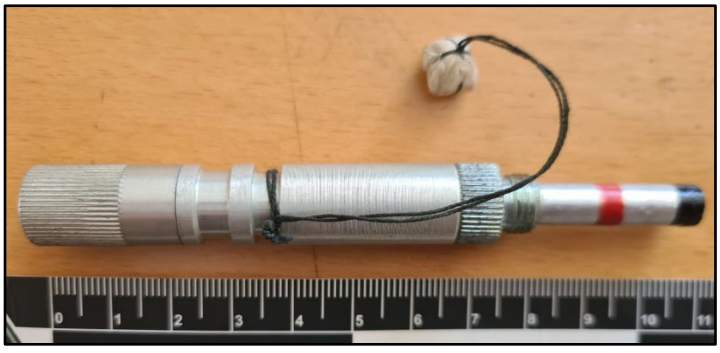
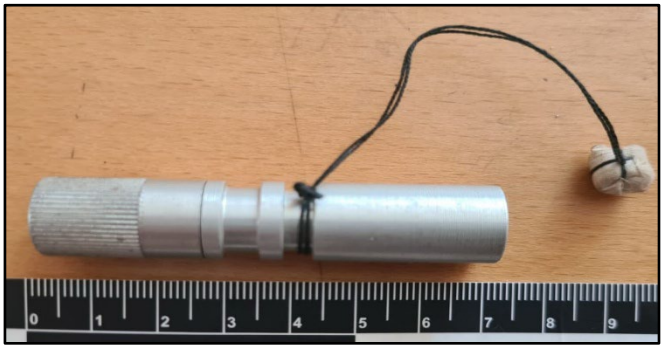
Sabotage Devices

VZD-1M
(mechanical delay)
Diameter: 24mm
Length: 112mm
Exposed length (with cap): 30mm
Country of origin: USSR







VZD-3M
(mechanical delay)

Diameter:13mm
Length without detonator: 66mm
Length with detonator MD-5M: 114mm
Country of origin: USSR

VZD-6Ch
(mechanical delay)
Length without detonator: 85mm
Width: 45mm
Thickness: 20mm
Country of origin: USSR

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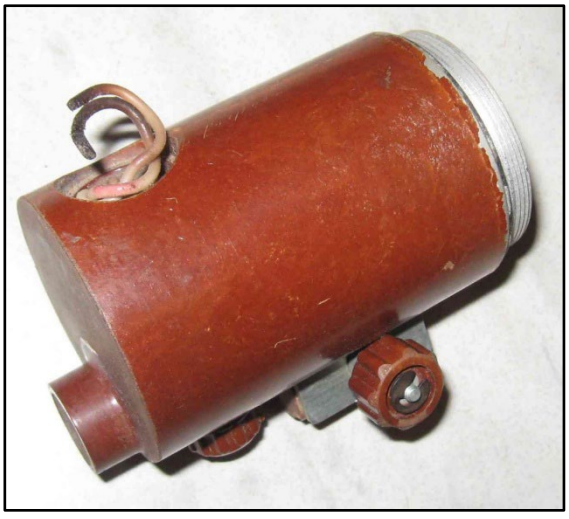
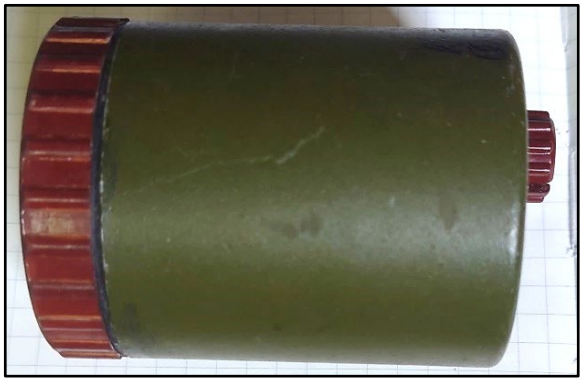
Sabotage Devices



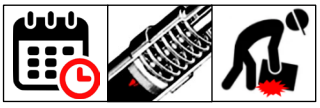
VZD-144
(mechanical delay)

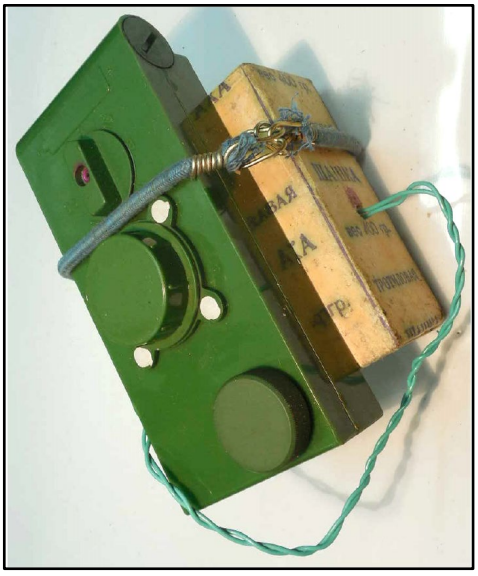
Diameter: 50mm
Length without detonator: 100mm
Country of origin: USSR



VZD-144Ch
(mechanical delay)

Diameter: 48mm
Length without detonator: 63mm
Length with MD-5M detonator: 122mm
Country of origin: russia





BKM-6
(radio command, concussion influence)

Note: The system consists of one VZDA-16Ch firing device and up to five VZDP-16Ch sensors. Each sensor can be initiated by radio command or concussion influence.
Length: 152mm
Width: 66mm
Height: 10mm
Country of origin: USSR

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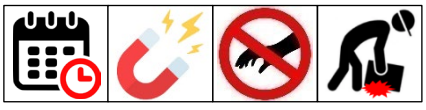
Sabotage Devices

M147
(electronic delay)
Length without detonator: 64mm
Width: 51mm
Thickness: 30mm
Country of origin: USA

PEKLO
(electronic time delay, antidisturbance, and magnetic influence)
Country of origin: Ukraine

Length: 57mm
Width: 29mm
Thickness: 27mm



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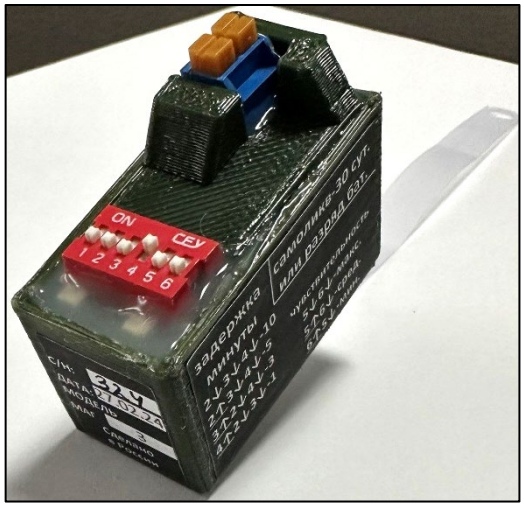
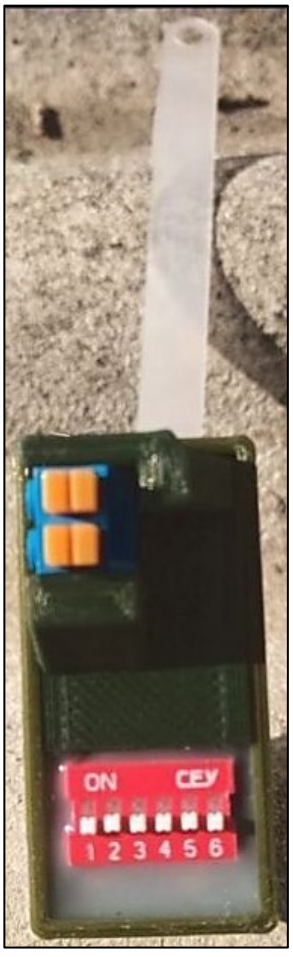
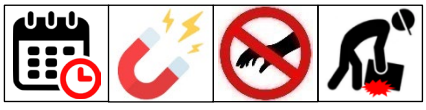
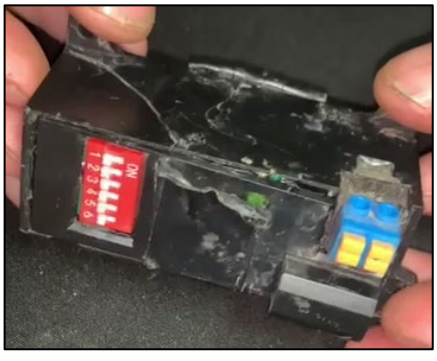
Sabotage Devices



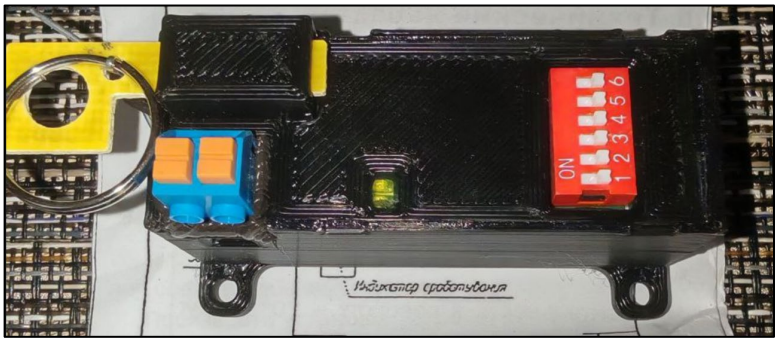


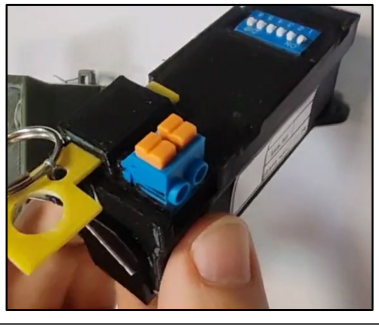
MAG-3
(electronic time delay and magnetic influence)
Length: ~50mm
Width: ~40mm
Thickness: ~25mm
Country of origin: russia





Iskra
(electronic time delay, antidisturbance, and magnetic influence)
Length: 75mm
Width: 40mm
Thickness: 35mm
Country of origin: russia





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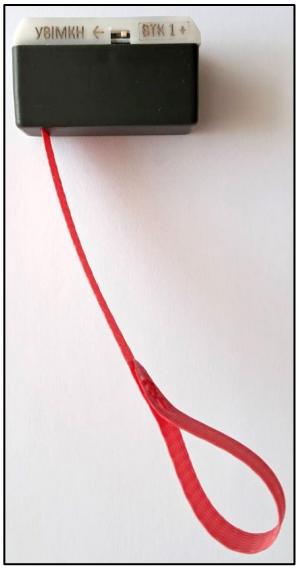
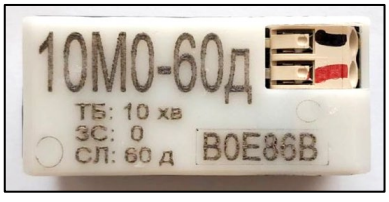
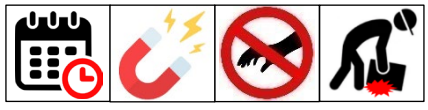
Sabotage Devices

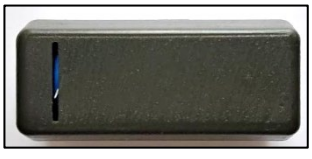




Johnny-M Series
(electronic time delay, antidisturbance, and magnetic influence)

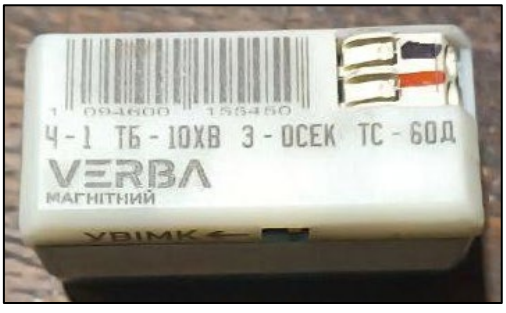
Length: 45.8mm
Width: 26.7mm
Thickness: 21.1mm
Note: The various models in this series of initiators have different self-destruct times, arming delay times, and levels of sensitivity.
Country of origin: Ukraine





VERBA Series
(electronic time delay, antidisturbance, and magnetic influence)

Length: 48mm
Width: 26mm
Thickness: 21mm
Note: The various models in this series of initiators have different self-destruct times, arming delay times, and levels of sensitivity.
Country of origin: Ukraine



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PD Fuzes

Point detonating (PD) fuzes are located in the front of the warheads used in projected and fired ammunition. They are commonly, but not exclusively, found in projectiles, mortars, rockets, and RPG ammunition. Fuzes found in the nose or front of aerial bombs, guided missile warheads, drone warheads, and submunitions will be found in those corresponding fuze sections instead.

PD fuzes are normally installed in high explosive, high explosive fragmentation, and fragmentation ammunition. Their most common methods of functioning are impact and impact-inertia. Although some are relatively simple and insensitive, many employ graze-sensitive features that make them sensitive to movement; they often contain a self-destruct mechanism of some kind as well. Therefore, any ammunition using a PD fuze should initially be treated with extreme caution.

Note that when a PD fuze also utilizes a base detonating element in the base or rear of the warhead, they are classified instead as Point Initiating Base Detonating (PIBD) fuzes and will be found in that section.

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PD Fuzes

AG-23
(impact)
Diameter: 19.8mm
Length: 56mm
Exposed length: 31mm
Country of origin: USSR

A-670M
(impact, pyrotechnic delay)
Diameter: 19.8mm
Length: 67.82mm
Exposed length: 38.6mm
Country of origin: USSR

KZ-984
(impact)
Diameter: 60mm
Length: 143mm
Exposed length: 86.9mm
Country of origin: Slovakia

AF621 (M-6N)
(impact)
Diameter: 48.5mm
Length: 88.5mm
Country of origin: Bulgaria

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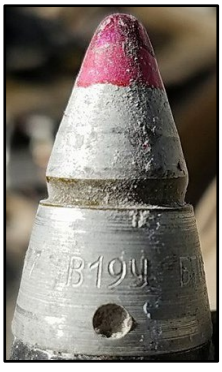
PD Fuzes

MG-25
(impact, pyrotechnic delay)
Diameter: 20mm
Length: 52.8mm
Exposed length: 30.73mm
Country of origin: USSR



V19U and V19UK
(impact, pyrotechnic delay)
Diameter: 20mm
Length: 55mm
Exposed length: 31mm
Country of origin: USSR

B-23A and B-23M
(impact)
Diameter: 20mm
Length: 44.74mm
Exposed length: 31.2mm
Note: Used with 23mm OFZ (HEI projectiles)
Country of origin: USSR

O-4M
(impact)
Diameter: 39mm
Length: 82mm
Exposed length: 50mm
Country of origin: USSR, Bulgaria

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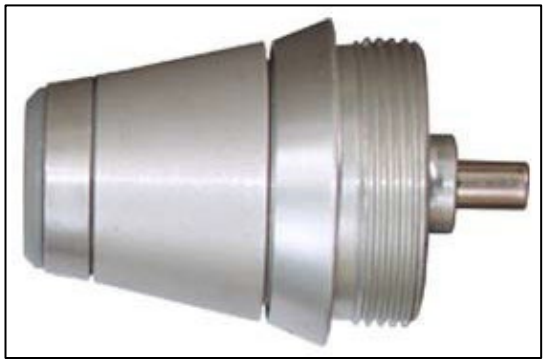
PD Fuzes

VMG-K and VMG-M
(impact, pyrotechnic delay)
Diameter: 30mm
Length: 51mm
Exposed length: 27mm
Country of origin: USSR

VMG-P
(impact, pyrotechnic delay)
Diameter: 29mm
Length: 57mm
Exposed length: 30mm
Country of origin: USSR

VMG-M-L
(impact, pyrotechnic delay)
Diameter: 29.6mm
Length: 51.5mm
Exposed length: 27mm
Country of origin: Bulgaria



AF43
(impact, pyrotechnic delay)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria

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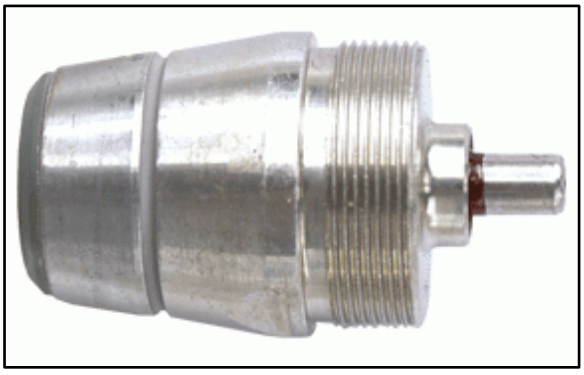
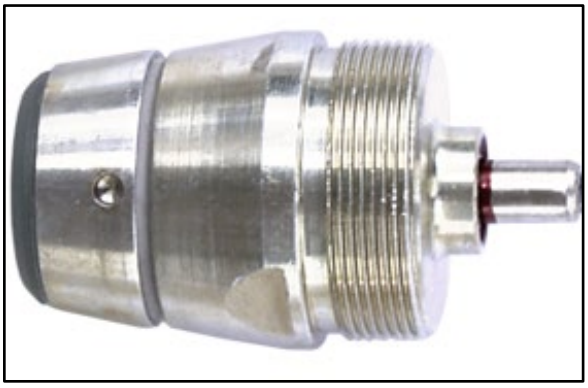
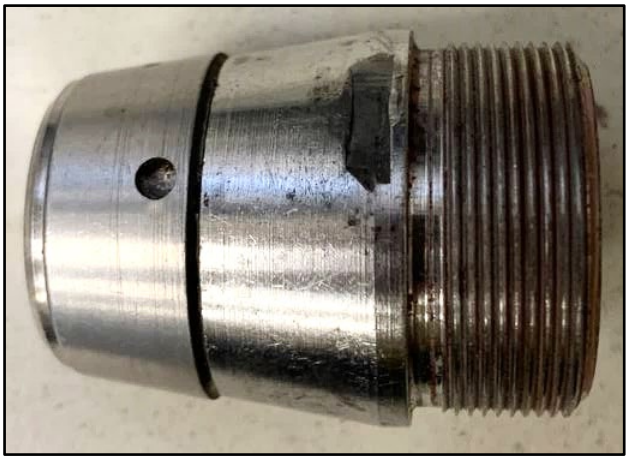
PD Fuzes



AF41
(impact, pyrotechnic delay)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria



AF35
(impact, pyrotechnic delay)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria



U-518M
(impact, pyrotechnic delay)
Diameter: 29mm
Length without detonator: 38.5mm
Exposed length: 26mm
Country of origin: russia

U-404
(impact)
Diameter: 76mm
Length: 153.5mm
Exposed length:
INFORMATION NEEDED
Country of origin: russia

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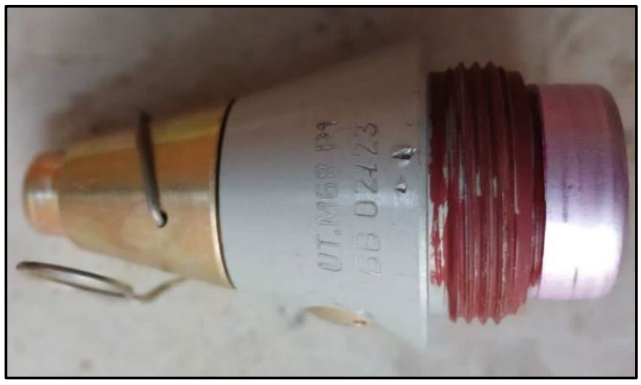
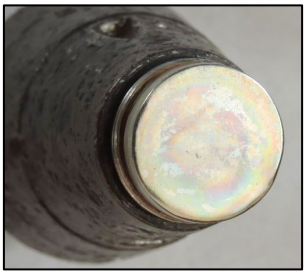
PD Fuzes



UT M68P1
(impact)
Diameter: 46mm
Length: 87mm
Exposed length: 61mm
Country of origin: Ukraine, Former Yugoslavia, Serbia

RGM, RGM-2, and RGM-2M
(impact)
Diameter: 39.8mm
Length: 102.3mm
Exposed length: 56.5mm
Note: These are used with artillery projectiles.
Country of origin: USSR



榴-5 / ML-5
(impact)
Diameter: 40mm
Length: 105mm
Exposed length: 59mm

Note: Markings may be in either English or Chinese.
Country of origin: China

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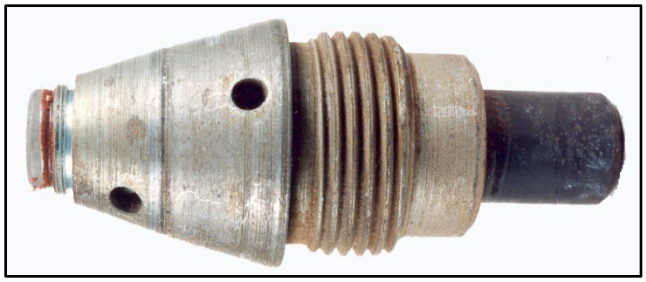
PD Fuzes

M-6
(impact)
Diameter: 39.37mm
Length: 82.55mm
Exposed length: 51.6mm
Note: The body can be made of metal or bakelite.
Country of origin: USSR

M-6 (Ukraine)
(impact)
Diameter: 40mm
Length: 81mm
Length of exposed portion with cap: 50mm
Country of origin: Ukraine

M6
(impact)
Diameter: 40mm
Length: 83mm
Length of exposed portion with cap: 50mm
Country of origin: Bulgaria

V-5M1
(impact, pyrotechnic delay)
Diameter: 39.9mm
Length: 157mm
Exposed length: 84.1mm
Country of origin: USSR



KTM-1
(impact)
Diameter: 39.6mm
Length: 95.2mm
Exposed length: 52.6mm
Country of origin: USSR

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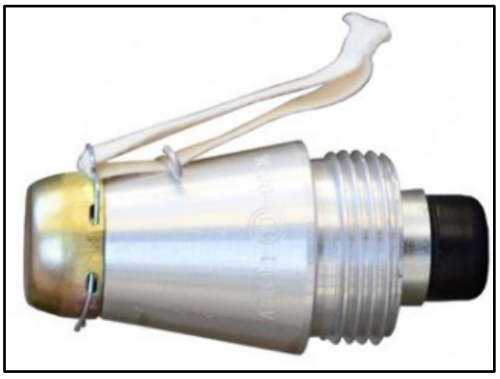
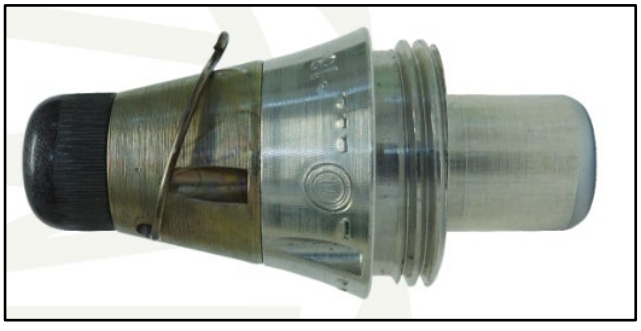
PD Fuzes



AF611
(impact)
Diameter: 40mm
Length: 83.4mm
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria



O-4N
(impact)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria

B-37 and MG-37
(impact, pyrotechnic delay)
Diameter: 29.7mm
Length: 82.5mm
Exposed length: 63mm
Country of origin: USSR

迫-1甲 Type 1 PD Fuze (mortar)
(impact)
Diameter: 40mm
Length: ~76mm
Exposed length: ~36mm
Country of origin: China

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PD Fuzes

M-5 and M-5M
(impact)
Diameter: 40mm
Length: 66mm
Exposed length: 36.1mm
Country of origin: USSR

MG-N
(impact)
Diameter: 40mm
Length: 99mm
Exposed length: 43.18mm
Country of origin: USSR

MG-57 and MGZ-57
(impact, pyrotechnic delay)
Diameter: 40mm
Length: 84.8mm
Exposed length: 47mm
Country of origin: USSR

UTIU M85
(impact)
Diameter: 40mm
Length: 109mm
Exposed length: 62mm
Country of origin: Serbia

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PD Fuzes

V-25
(impact)
Diameter: 40mm
Length: 114.3mm
Length (without cap): 111.25mm
Exposed length: 68.1mm
Exposed length (without cap): 66mm
Country of origin: USSR

M-12 and V-22
(impact)
Diameter: 40 or 50mm
Length: 117-119mm
Exposed length: 71-74mm
Country of origin: USSR

DM111A2 / DM 111 A2
(impact)
Diameter: 49mm
Length: 87mm
Exposed length: 61mm
Country of origin: Portugal, Germany

M525 Series
(impact)
Diameter: 49mm
Length: 96mm
Exposed length: 61.5mm
Country of origin: USA

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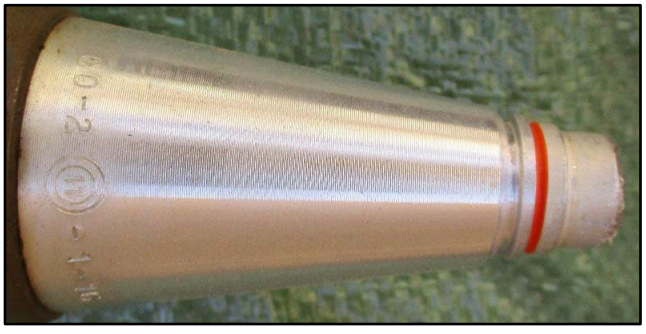
PD Fuzes

GK-2
(impact)
Diameter: 40mm
Length: 101.3mm
Exposed length: 75mm
Country of origin: USSR



GO-2
(impact)
Diameter: 40mm
Length: 131mm
Exposed length: 77mm
Notes: Used with OG-7, OG-9 and OG-15 projectiles.
Country of origin: USSR, Bulgaria

V-491
(impact)
Diameter: 64mm
Length: ~156.5mm
Exposed length: ~116mm
Country of origin: USSR

UT M18
(impact)
Diameter: 49mm
Length: 92.3mm
Exposed length: **INFORMATION NEEDED**
Country of origin: Serbia

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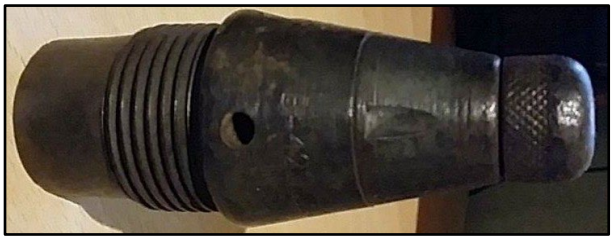
PD Fuzes



V-429 and V-429E
(impact)

Diameter: 41mm
Length: 105mm
Length of exposed portion without cap: 58mm
Country of origin: USSR

B429E
(impact)

Diameter: 40mm
Length: 105.7mm
Exposed length: 58.9mm
Note: This is a copy of the Soviet V-429.
Country of origin: Iran

3V35
(impact)

Diameter: 37.5mm
Length: 140mm
Exposed length: 75mm
Country of origin: USSR

AZ111 and AZ111-A2
(impact)

Diameter: 49mm
Length: 87mm
Exposed length: 61mm
Country of origin: Iran

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PD Fuzes

M783
(impact)
Diameter: 49mm
Length: 94.5mm
Exposed length: 66mm
Country of origin: USA

PD602
(impact)
Diameter: **INFORMATION NEEDED**
Length: 151.6mm
Exposed length: 95.5mm
Note: Used with 105mm and 155mm HE shells of the NATO standard.
Country of origin: Germany

M739
(impact)
Diameter: 61mm
Length: 152mm
Exposed length: 96mm
Note: Used with 105mm and 155mm HE shells of the NATO standard, but has also been used with Iranian 130mm projectiles.
Country of origin: USA

M739A1
(impact)
Diameter: 61mm
Length: 152mm
Exposed length: 96mm
Note: Used with 105mm and 155mm HE shells of the NATO standard.
Country of origin: USA

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PD Fuzes

M557
(impact)
Diameter: 61mm
Length: 151mm
Exposed length: 94mm
Note: The front of the fuze is often torn off during impact. However, the remaining base portion still contains functioning, hazardous elements.
Country of origin: USA

M557P1
(impact)
Diameter: 61mm
Length: 151mm
Exposed length: 96.4mm
Note: This is a copy of the American M557 fuze.
Country of origin: India

PDM 557
(impact)
Diameter: 61mm
Length: 151mm
Exposed length: 94 mm
Note: This is a copy of the American M557 fuze.
Country of origin: Pakistan

M572
(impact)
Diameter: 61mm
Length: 151mm
Exposed length: 94mm
Country of origin: USA

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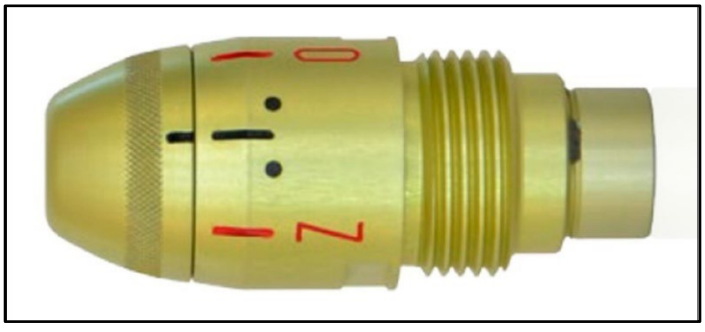
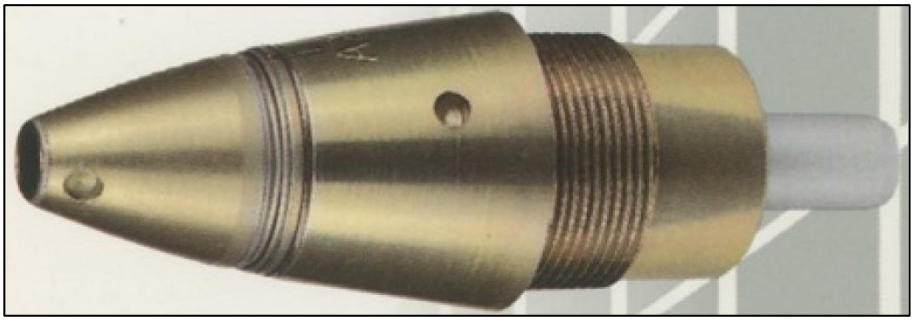
PD Fuzes

M51A5
(impact)
Diameter: 61mm
Length: 151mm
Exposed length: 95mm
Note: The front of the fuze is often torn off during impact. However, the remaining base portion still contains functioning, hazardous elements.
Country of origin: USA, Iran



ZGM
(impact)
Diameter: 40mm
Length: 96.3mm
Exposed length: **INFORMATION NEEDED**
Country of origin: Poland



DM321
(impact, pyrotechnic delay)
Diameter: **INFORMATION NEEDED**
Length: 78.6mm
Exposed length: 42.2mm
Country of origin: Germany

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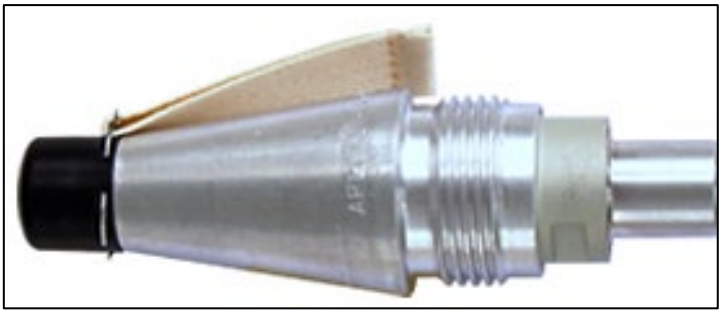
PD Fuzes

방-107 Type 107
(impact)
Diameter: 40mm
Length: 104mm
Exposed length: 75mm
Country of origin: North Korea

방-76 Type 76
(impact)
Diameter: 40mm
Length: 104mm
Exposed length: 75mm
Country of origin: North Korea

AF71
(impact)
Diameter: 40mm
Length: 133mm
Length without detonator: 113mm
Exposed length with cap: 74mm
Country of origin: Bulgaria



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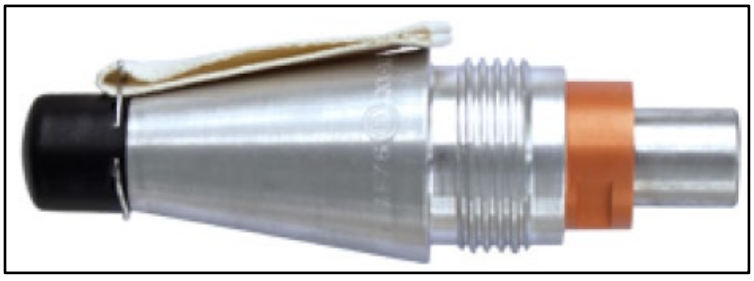
PD Fuzes

AF72
(impact)
Diameter: 40mm
Length: 133mm
Length without detonator: 114mm
Exposed length with cap: 72mm
Country of origin: Bulgaria



AF76
(impact)
Diameter: 40mm
Length: 133mm
Exposed length: **INFORMATION NEEDED**
Country of origin: Bulgaria

M935
(impact)
Diameter: 50mm
Length: 90.9mm
Exposed length: 63mm
Country of origin: USA

M751
(impact)
Diameter: 49mm
Length: 104mm
Exposed length: 66mm
Country of origin: USA

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PD Fuzes

AF69
(impact)
Diameter: 40mm
Length: 122mm
Exposed length: 71mm
Country of origin: Bulgaria

AR-MDH
(impact)
Diameter: 49mm
Length: 95mm
Exposed length: 68mm
Country of origin: Bulgaria

PDB 332
(impact)
Diameter: 49mm
Length: 95mm
Exposed length: 67mm
Country of origin: Spain

UTI M63
(impact)
Diameter: 38mm
Length Without cap: 67mm

Exposed length without cap: 32mm
Country of origin: Former Yugoslavia

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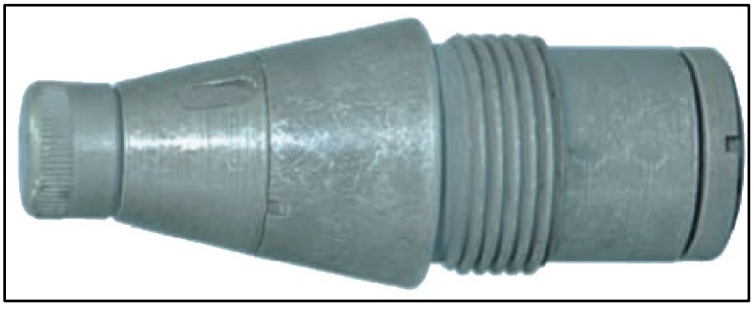
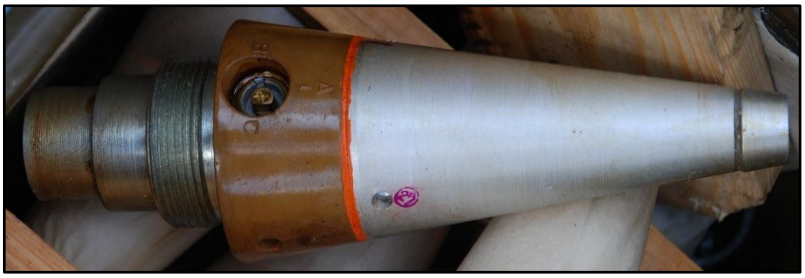
PD Fuzes

MJ-7
(impact)
Diameter: 40mm
Length: 87mm
Exposed length: 38mm
Country of origin: China



UTIU M72B1
(impact)
Diameter: 40mm
Length: 105mm
Exposed length: 58mm
Country of origin: Serbia

MRV-U
(impact)
Diameter: 64mm
Length: 195mm
Exposed length: 141.1mm
Country of origin: USSR



F-122
(impact)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**

Exposed Length: **INFORMATION NEEDED**
Note: This is a copy of the Soviet MRV fuze.
Country of origin: North Korea

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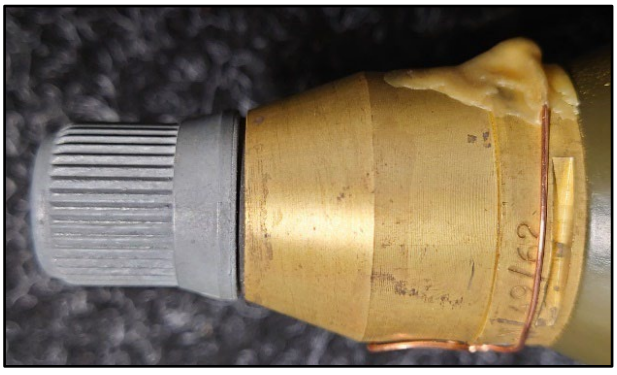
PD Fuzes

M/49/62
(impact)
Diameter: 31.5mm
Length: **INFORMATION NEEDED**
Length of exposed portion without cap: 55mm
Length of exposed portion with cap: 57mm
Country of origin: Denmark



M423
(impact)
Diameter: 44mm
Length: 102mm
Exposed length: 80mm
Note: This fuze is used with 70mm rockets, including the 70mm APKWS. The front section is often torn off on impact, as seen in the images below.
Country of origin: USA

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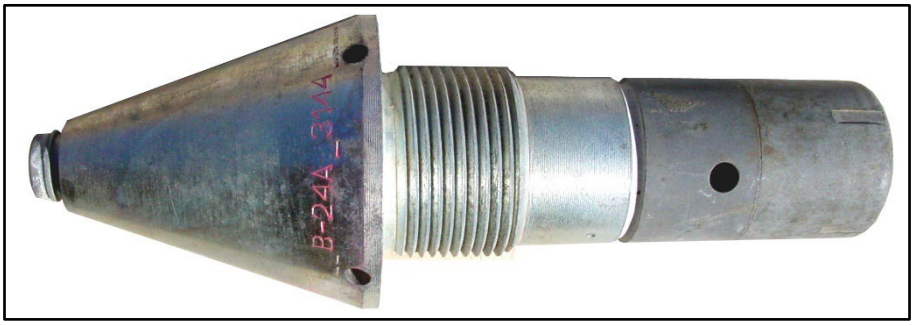
PD Fuzes



V-24A
(impact)
Diameter: 80mm
Length: 229mm
Exposed length: 92mm
Note: Used with the 240mm S-24B rocket.
Country of origin: USSR

No. 162 MK-9 (M1)
(impact)
Diameter: 38mm
Diameter with adapter: 48mm
Length with cap: 90.5mm
Exposed length: **INFORMATION NEEDED**
Note: Used with 120mm mortars.
Country of origin: India

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PIBD Fuzes

Point Initiating Base Detonating (PIBD) fuzes contain two elements located in both the front and rear (base) of warheads used in projected and fired ammunition. They are commonly, but not exclusively, found in projectiles, rockets, and RPG ammunition. Similar fuzes used in aerial bombs, guided missile warheads, drone warheads, and submunitions will be found in those corresponding fuze sections instead.

PIBD fuzes are normally installed in ammunition with shaped charges. The pointing initiating (PI) and base detonating (BD) elements may:

1) Be connected physically, which is common when the PI element utilizes piezo-electric crystals to generate and transmit an electric firing signal to the BD element. Or,

2) Utilize the “spit-back principle”, whereby the PI element uses an explosive charge to initiate the BD element from across the warhead.

Regardless of which mechanism they employ, all munitions containing PIBD fuzes should be treated as extremely sensitive to movement. When they contain piezo electric crystals, caution must also be taken not to inadvertently stress or jar the munition. Self-destruct mechanisms are also commonly used in these fuzes.

Note that depending on the country of origin and manufacturer, the pointing PI and BD elements may have their own individual model names, or, both of them together may be designated as a single fuze.

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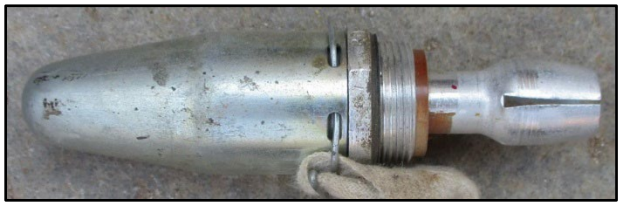
PIBD Fuzes



VP-9 (point element)
(impact, pyrotechnic delay)
Diameter: 24.63mm
Total length: 91.08mm
Length (without cap): 87.36mm
Exposed length: 54.44mm
Length of exposed portion (without cap): 51.15mm
Country of origin: USSR

VP-7, -9, -16, and -18 (base elements)
(impact, pyrotechnic delay)
Diameter: 37.16mm
Length: 74.03mm
Country of origin: USSR

VP-22
(impact, pyrotechnic delay)
Diameter: 37mm
Length: 73.4mm
Country of origin: USSR

AZ-Z DM451
(impact, pyrotechnic delay)
Diameter: 40mm
Length: **INFORMATION NEEDED**
Exposed length:
INFORMATION NEEDED
Country of origin: Germany

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PIBD Fuzes

I-238
(impact)
Diameter: 40mm
Length:159mm
Exposed length:
INFORMATION NEEDED
Country of origin: USSR

GPV-2
(impact)
Diameter: 40mm
Length: 98mm
Exposed length: 56mm
Country of origin: USSR

GPV-3
(impact)
Diameter: 40мм
Length: 120мм
Exposed length: 81mm
Country of origin: USSR

V-5K
(impact)
Diameter: 40mm
Length: 120mm
Exposed length: 104mm
Country of origin: USSR

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Proximity Fuzes

Proximity fuzes are located in the front of projected and fired ammunition. They are commonly, but not exclusively, found in projectiles, mortars, and rockets. Similar fuzes or sensors used with aerial bombs, guided missile warheads, drone warheads, and submunitions will be found in those corresponding fuze sections instead.

Proximity fuzes detect the ground or other targets from a distance, normally by the transmission and reception of radio waves. At a predetermined distance from the target, the fuze will initiate. Depending on the design of the fuze, the initiation distance and type of target(s) may be preprogrammed by the user or may be preset in the factory. These fuzes are normally installed in high explosive fragmentation, fragmentation and cluster types of ammunition.

Note that even if a proximity sensor fails to function as designed, it may still be active after the ammunition has fallen to earth; moving the ammunition or passing in front of the proximity sensor before the power source has run out may inadvertently initiate the fuze.

Additionally, many proximity fuzes also contain impact and impact-inertia backup mechanisms which function independently of the proximity sensor. Therefore, any ammunition using a proximity fuze should initially be treated with extreme caution, even if the plastic proximity sensor portion is damaged or missing.

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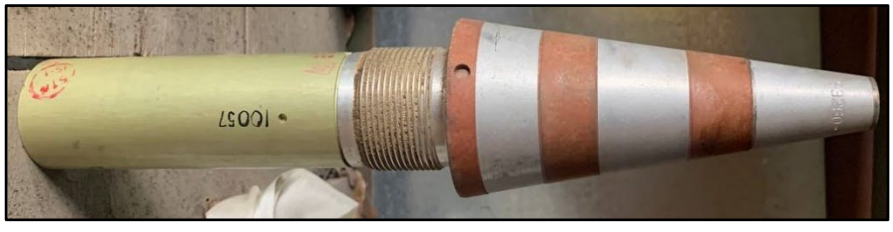
Proximity Fuzes

AR-5
(proximity, impact)
Diameter: 42mm
Length: ~140mm
Exposed length: ~90mm
Country of origin: USSR

AR-6
(proximity, impact)
Diameter: 66mm
Length: ~250mm
Exposed length: ~200mm
Country of origin: USSR

AR-27
(proximity, impact)
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Exposed length:
INFORMATION NEEDED
Country of origin: USSR



9E260-1
(proximity, impact)
Diameter: **INFORMATION NEEDED**
Length: 298mm
Exposed length: **INFORMATION NEEDED**
Country of origin: russia

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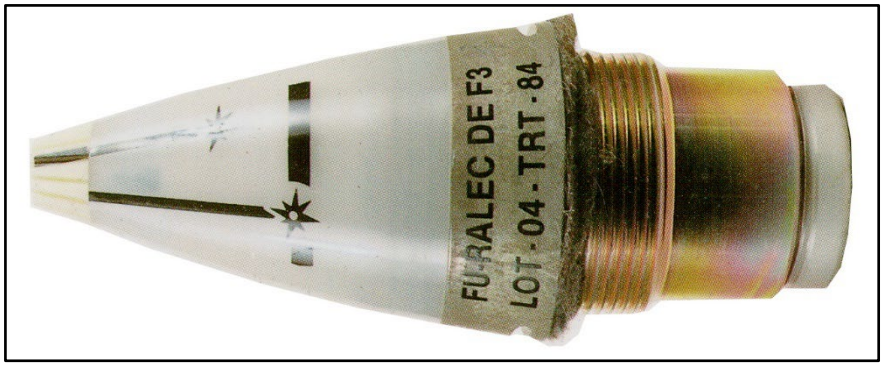
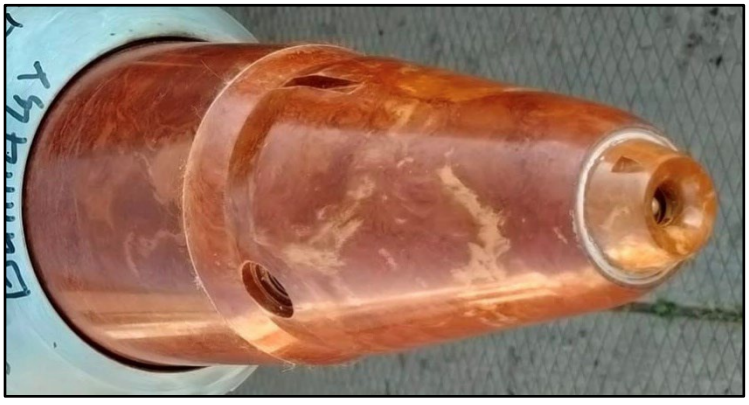
Proximity Fuzes



FU RALEC DE F3
(proximity, impact)
Diameter: 61mm
Length: 151mm
Exposed length: 99mm
Country of origin: France



RV-25
(proximity)
Diameter: 170mm
Length: 453mm
Exposed length: **INFORMATION NEEDED**
Country of origin: USSR

BU-105 M79
(proximity, impact)
Diameter: 60mm
Length: 133mm
Exposed length: 76mm
Country of origin: Serbia

ÖF ZONAR 75B MK
(proximity, impact)
Diameter: 61mm
Length: 164mm
Exposed length: **INFORMATION NEEDED**
Country of origin: Sweden

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Proximity Fuzes

VIPER

(proximity, impact)

Diameter: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Exposed length: **INFORMATION NEEDED**

Note: This fuze is used with the 70mm APKWS.

Country of origin: USA

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Time Fuzes

Time fuzes are primarily designed to initiate after a predetermined amount of time has passed since the ammunition was fired or launched; depending on the design of the fuze, the time delay may be set by the user or may be preset in the factory.

Time fuzes are used with projected and fired ammunition. They are commonly, but not exclusively, found in projectiles, mortars, and rockets. Similar fuzes used with other types of ammunition, including sabotage devices, will be found in those corresponding fuze sections instead.

In general terms, time fuzes are considered electrical, mechanical or pyrotechnic – each method of operation comes with its own particular risks and hazards. Some, when they fail to function as designed, may initiate after a much longer time period has passed. Others, particularly mechanical types, may become stuck and then initiate when jarred or handled roughly. Ensure that the functioning of a time fuze is completely understood before attempting to approach or handle it.

Many time fuzes also contain impact and impact-inertia backup mechanisms which function independently of the time delay mechanisms. Therefore, any ammunition using a time fuze should initially be treated with extreme caution.

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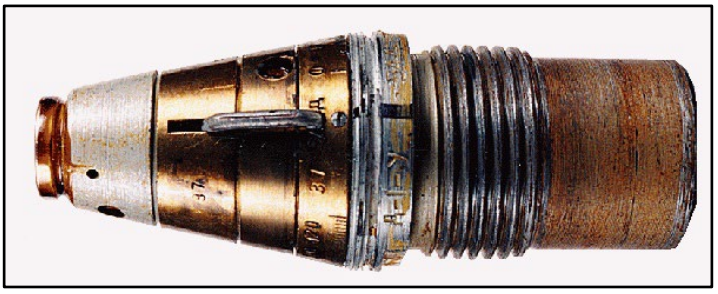
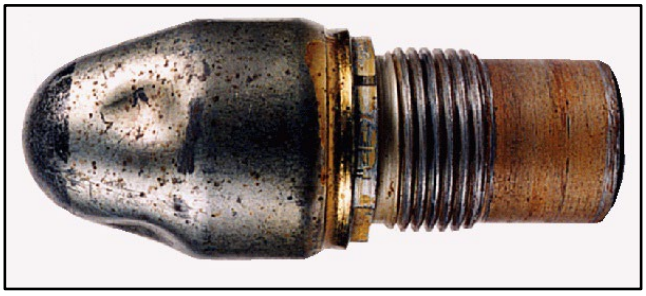
Time Fuzes

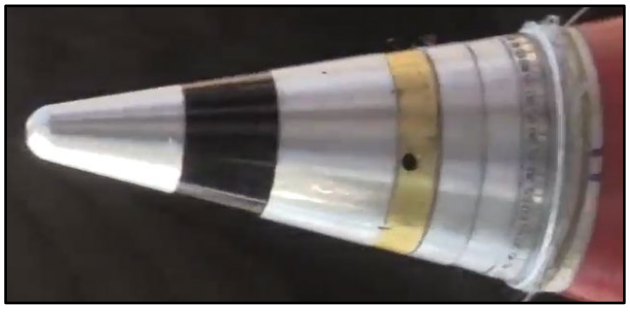
D-1 and D-1U
(pyrotechnic delay, impact)
Diameter: 40.39mm
Length without cap: 106mm

Exposed Length without Cap: 59.9mm
Country of origin: USSR





T-1
(pyrotechnic delay, impact)
Diameter: 40.39mm
Length without cap: 71.1mm
Exposed length without cap: 59.9mm
Country of origin: USSR



T-7
(pyrotechnic delay, impact)
Diameter: 64mm
Length:157mm
Exposed length: 128mm
Country of origin: USSR

DTM-75
(mechanical time delay)
Diameter: 63mm
Length: 139mm
Country of origin: USSR

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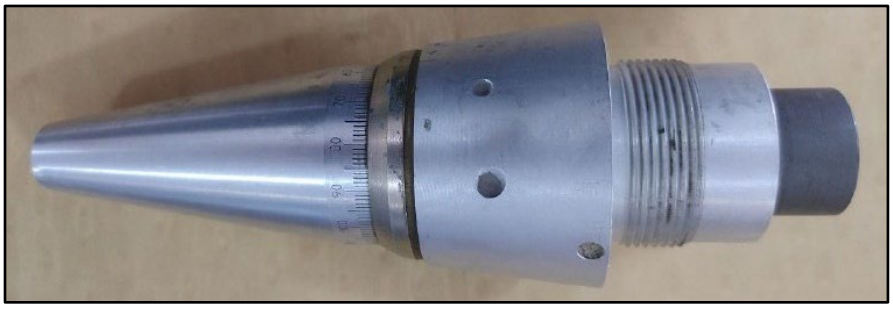
Time Fuzes

T-90
(mechanical time delay)
Diameter: 41mm
Length: 108mm
Exposed length: 61mm
Country of origin: USSR



TM-120
(mechanical time delay)
Diameter: 64mm
Length: 195mm
Exposed length:140mm
Country of origin: russia

M776
(mechanical time delay, impact)
Diameter: 49mm
Length: 87.6mm
Exposed length: 60mm
Country of origin: USA

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Time Fuzes

M67
(pyrotechnic delay)
Diameter: 78.7mm
Length: 78mm
Exposed length: 69mm
Country of origin: Serbia

DM153
(mechanical time delay, impact)
Diameter: 60.9mm
Length: 117.3mm
Exposed length: 96.4mm
Country of origin: Germany

M767A1
(electronic time delay, impact)
Diameter: 61mm
Length: 134mm
Exposed length: 95.5mm
Country of origin: USA

M577
(mechanical time delay, impact)
Diameter: 61mm
Length: 134mm
Exposed length: 96mm
Country of origin: USA

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Time Fuzes

M762
(electronic time delay, impact)
Diameter: 61.2mm
Length: 133.9mm
Exposed length: 95.5mm
Country of origin: USA

DM52A2
(electronic time delay, impact)
Diameter: 61mm
Length: 135mm
Exposed length: 97mm
Country of origin: Germany

FU CHRONO ELN F1
(electronic time delay)
Diameter: **INFORMATION NEEDED**
Length: 134.4mm
Exposed length: ~114mm
Country of origin: France

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Propellant

Propellant charges are designed to accelerate projectiles.

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Propellant

Propellant Charge for PG-7 Series

Diameter: 40mm
Length: ~270mm
Finspan: 285mm
Country of origin: USSR, Bulgaria

RPG-7 Series

PG-7 Flight Motor (PG-7P)

Diameter: 40mm
Length: ~270mm
Note: These rocket motors often separate from the warhead on impact.
Country of origin: USSR, Bulgaria

RPG-7 Series

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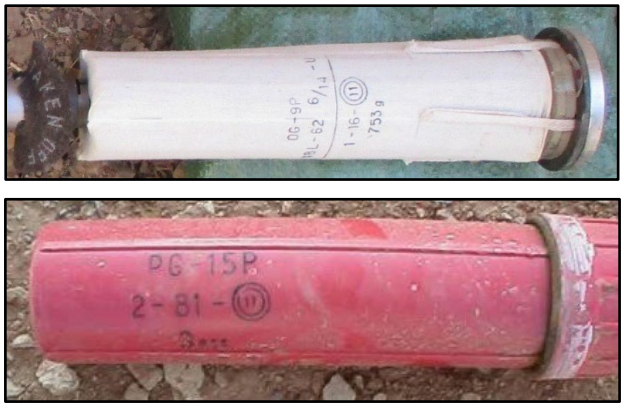
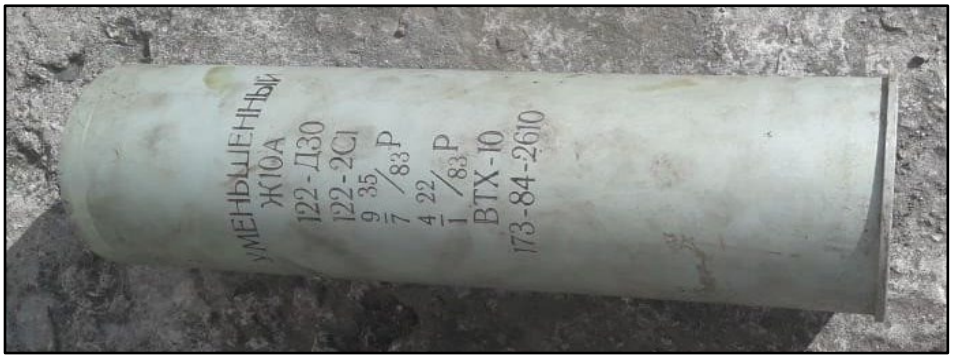
Propellant



Propellant Charge for OG-9 and PG-9
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Has an electric primer.
Country of origin: USSR, Bulgaria

Propellant Charge for OG-15 and PG-15
Diameter of body: 73mm
Length: 112mm
Note: Has an electric primer.
Country of origin: USSR, Bulgaria



Propellant Cartridge for 122mm Artillery Projectile
Length: 446mm
Diameter: 127mm
Country of origin: USSR

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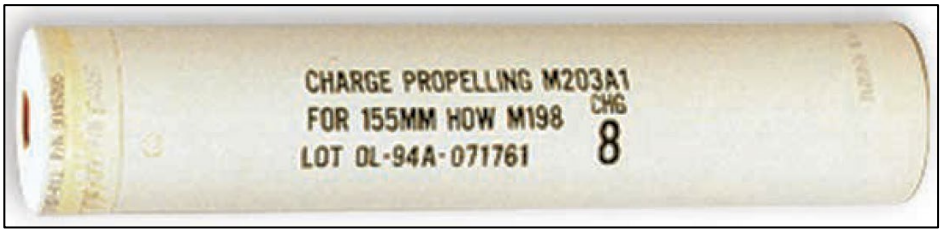
Propellant

M3A1 Propellant Charge
Diameter: ~127mm
Length: ~406mm
Note: This charge is made up of multiple smaller charges.
Country of origin: USA



M203A1 Propellant Charge
Diameter: ~159mm
Length: ~768mm
Country of origin: USA

M232 Propellant Charge
Diameter: 152mm
Length: ~156mm
Country of origin: USA

M92 Propellant Charge
Diameter: 158mm
Length (per module): 167mm
Country of origin: India

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Pyrotechnics

Signal, illumination and smoke devices are found in this section. Also included are some decoy munitions such as aircraft flares and chaff.

In cases where munitions have a pyrotechnic effect but are normally categorized as another type of munition, such as illumination mortars and smoke grenades, they will be found under those categories instead.

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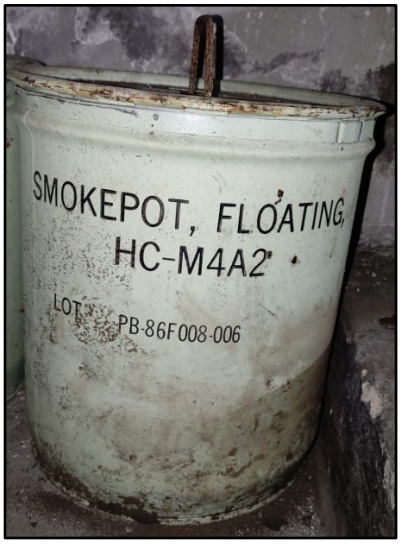
Pyrotechnics

L8A1
(smoke / red phosphorus)
Diameter: 66mm
Height: 185mm
Country of origin: UK



M4A2
(smoke)
Diameter: 305mm
Height: 330mm
Country of origin: USA

Handheld Lighting and Signaling Cartridges
Diameter: 30mm
Length: 225mm
Country of origin: USSR/russia

50-ROPDD
(illumination)
Diameter: 50mm
Length: 290mm
Country of origin: russia

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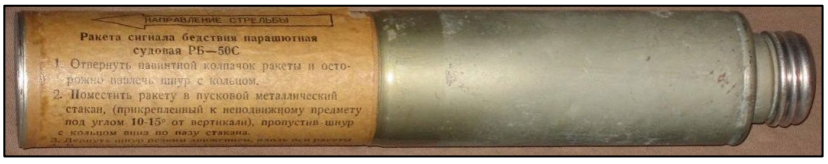
Pyrotechnics



RB-50S
(red signal)
Diameter: 50mm
Length: 287mm
Country of origin: russia

PRB-40
(red parachute flare)
Diameter: 42mm
Length: 206mm
Country of origin: russia

ZRB-40
(distress signal)
Diameter: 42mm
Length: 206mm
Country of origin: russia

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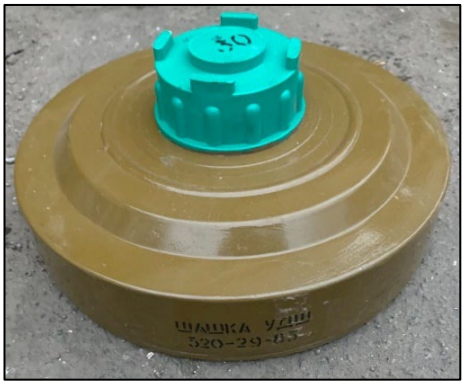
Pyrotechnics

DM-11
(smoke)

Diameter: 156mm
Height: 97mm

Note: Comes with and without a handle.
Country of origin: USSR



UDSh
(smoke)

Diameter: 318mm
Height: 139mm
Note: Can be initiated by using the built-in electric igniter or by striking the built-in mechanical igniter.
Country of origin: USSR

UDSh-U
(smoke)

Diameter: ~325mm
Height with transport cover: not more than 155mm
Country of origin: Ukraine

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Pyrotechnics

Ground Signaling Cartridge "NSP"
(colored light)
Diameter: 37mm
Length: 100mm
Note: Three different variants produce either red, green, or yellow light.
Country of origin: USSR

PPR-50
(chaff)
Height: 200mm
Diameter: 50mm
Country of origin: russia/USSR

L221
(infrared flare)
Height: 200mm
Diameter: 50mm
Country of origin: russia/USSR

3D6/3D6M
(smoke)
Height: 220mm
Diameter: 81mm
Country of origin: russia

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Pyrotechnics

L376-2 "Yagel"
(decoy)
Diameter: 50mm
Length: 200mm
Country of origin: russia

UDSh-UP
(white smoke)
Diameter: 410mm
Height: 490mm
Country of origin: Ukraine

BDSh-5
(white smoke)
Diameter: 412mm
Height: 480mm
Country of origin: russia

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Miscellaneous

The miscellaneous category contains ordnance items which do not easily fit into other ammunition categories, but are routinely encountered in Ukraine. This includes accessories and components of ammunition that remain after the ammunition itself has been used. Some contain energetic or dangerous elements themselves, while others simply indicate the presence of the ammunition they are associated with.

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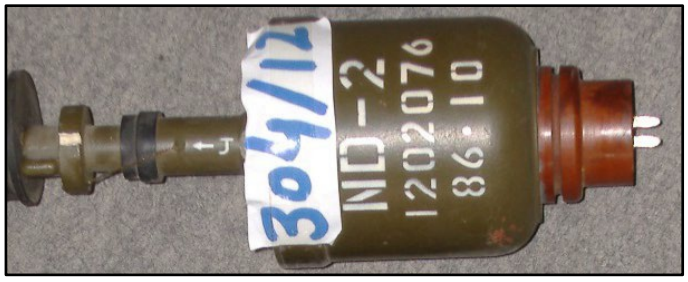
Miscellaneous



Thermal Battery for 9K32 "Strela-2"
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Note: Heats up to a high temperature when activated.
Country of origin: USSR

Thermal Battery for 9K38 and 9K310 "Igla" and "Igla-1"
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Country of origin: USSR

Battery Coolant Unit for FIM-92 Stinger
Diameter: ~86mm
Length: 95mm
Country of origin: USA

FIM-92 Stinger

9B899 Decoy
Body diameter: 68mm
Diameter of orange tail section: 108mm
Length (without nose cap): 430mm
Country of origin: USSR

9M723 Series

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Miscellaneous

Launch Motor for FIM-92 Stinger
Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Country of origin: USA

FIM-92 Stinger

Launch Motor for 9K111 "Fagot" (HATO: AT-4ASpigot)
Diameter: ~120mm
Length: **INFORMATION NEEDED**
Note: Can be black or green.
Country of origin: USSR

Launch Motor for 9M113 Konkurs
Diameter of body: 110mm
Total length: 286mm
Length of body: 205mm
Note: Can be black or green.
Country of origin: russia

9M113 Konkurs

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Miscellaneous

Launch Motor for 9M120F Ataka

Diameter: 130mm
Length: 190mm
Country of origin: russia

9M120F Ataka

Launch Motor for RPO-A

Diameter: 90mm
Length: 210mm
Country of origin: russia

RPO-A

Launch Motor for RPV-16

Diameter: **INFORMATION NEEDED**
Length: **INFORMATION NEEDED**
Country of origin: Ukraine

RPV-16

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Miscellaneous

Delay Assembly for 155mm M549 and M549A1 Projectiles

Diameter: ~48mm Length: ~200mm

Note: This component ignites the rocket motors of the 155mm M549 and M549A1 projectiles after a short delay when they are fired; it is often ejected when the motor ignites and found separate from the projectile.

Country of origin: USA

155mm M549 and M549A1

Launch motor for Stugna-P / Skif (SD-2S)

Diameter: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Country of origin: Ukraine

R-2S (Stugna-P / Skif)

Launch motor for Korsar (SD-3)

Diameter: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Country of origin: Ukraine

Korsar

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Miscellaneous

Launch motor for RB 70 (RBS 70)

Diameter: **INFORMATION NEEDED**

Length: **INFORMATION NEEDED**

Country of origin: Sweden

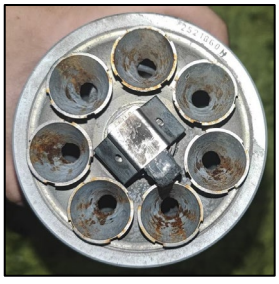
[RB 70 (RBS 70)]

Launch motor for Mistral

Diameter of body: 85mm

Length: 310mm

Country of origin: France



[Mistral]

Pressurized gas vessels

Dimensions: varies

Note: Many guided missiles contain these gas vessels; their purpose is to power the movement of aerodynamic surfaces, cool electronics, and various other functions. Handle them with care if it is unclear whether or not they are still pressurized!

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Miscellaneous

Launch motors for fixed-wing drones

Dimensions: varies

Note: These rocket motors are used to provide the initial thrust for some types of fixed-wing drones during takeoff. They may or may not be found attached to the drone.

Country of origin: Ukraine

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Miscellaneous

Contact Cover for 122mm Rockets
Body diameter: ~127mm
Diameter of cap: 71mm
Length with cap: 110mm
Country of origin: russia

122mm "Grad"

NATO Lifting Plug for Artillery Projectiles
Dimensions: varies
Note: Plugs do not contain explosives themselves, and are replaced with a fuze prior to the projectile being fired.
Country of origin: NATO

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Miscellaneous

Modular Reactive Armor KhSChKV-19

Width: 125mm
Length: 250mm
Height: 24mm
Country of origin: Ukraine

Modular Reactive Armor KhSChKV-34

Width: 125mm
Length: 250mm
Height: 36mm
Country of origin: Ukraine

4S20 Reactive Armor Panel

Width: 130mm
Length: 255mm
Note: There are usually 2 pieces in a metal case.
Country of origin: USSR

Reactive Armor Box (model unk)

Width: 137mm
Length: 312mm
Note: Contains 2 4S20 reactive panels.
Country of origin: USSR

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Miscellaneous

M5A2
(explosive reactive armor)
Height: 329mm
Width: 398mm
Thickness: 309mm
Country of origin: USA

External fuel tanks
Dimensions: varies
Note: These are fuel tanks mounted on the outsides of fixed- and rotary-winged aircraft, designed to increase the aircrafts' range. Some are designed to be ejected from the aircraft in an emergency or when they are empty; these may have explosive cartridges attached.

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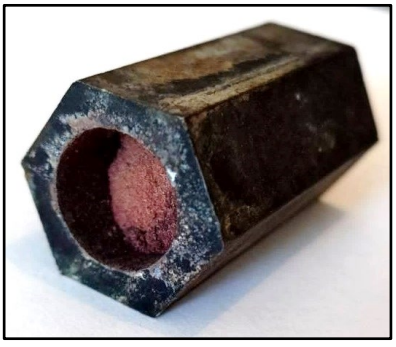
Miscellaneous

ML-5
(incendiary)
Length: 41mm
Thickness: 22mm
Country of origin: USSR

122mm MLRS



GE30M
(incendiary)
Diameter: 30mm
Height: 29.7mm
Note: Used in the warheads of some Kh-series missile and Shahed-2 warheads.
Country of origin: russia

Supplementary charges (HE)
Diameter: ~46mm Length: 63mm
Note: These are installed in the fuze wells of some NATO artillery projectiles; they are removed when fuzes with extra-long boosters are used.
Country of origin: USA

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Miscellaneous

Grenade Discharge Cup for AK
Country of origin: USSR/russia

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